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BULLETIN No. 58

TRADE AND INDUSTRIAL  
SERIES No. 15

©

# *Trade and Industrial Education for Girls and Women*

*Part 1. ECONOMIC AND SOCIAL ASPECTS  
OF VOCATIONAL EDUCATION FOR  
GIRLS AND WOMEN*

*Part 2. WAYS AND MEANS OF ESTAB-  
LISHING AND OPERATING A PRO-  
GRAM*

October, 1920

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ISSUED BY THE  
FEDERAL BOARD FOR VOCATIONAL EDUCATION  
WASHINGTON

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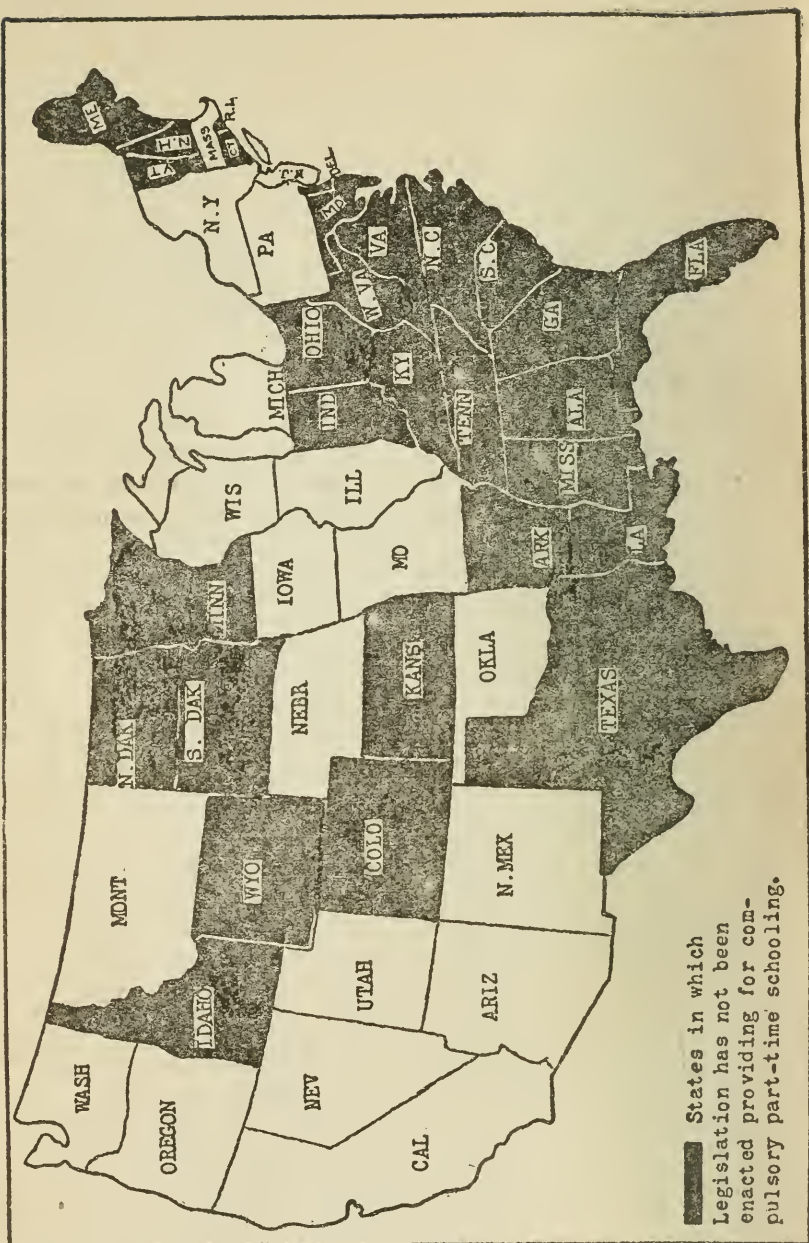
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# COMPULSORY PART-TIME SCHOOL LEGISLATION IN THE STATES.



States in which  
Legislation has not been  
enacted providing for com-  
pulsory part-time schooling.

## FOREWORD.

By the provisions of the vocational education act, enacted February 23, 1917, the Federal Board for Vocational Education is charged with the duty of disbursing Federal moneys to the States for approved instruction in trade and industrial education of less than college grade, and of promoting in cooperation with the States the establishment of such instruction.

The bulletins on organization and administration of trade and industrial education (Nos. 17, 18, 19) were prepared in sufficiently broad terms to indicate that the policies of the Federal Board for Vocational Education applied to instruction for girls and women as well as for men and boys.

Accurate information relative to the changes in the employment of women accelerated by the war is not available at present. However, the public is becoming increasingly aware of the extent to which industry is dependent upon women workers.

In consideration of this fact, this bulletin has been prepared by Mrs. Anna Lalor Burdick, special agent for trade and industrial education. It presents the background of industrial education for women, some of the attendant problems and the program which is possible under the terms of the Federal act.

The manuscript was presented in conference before a group of men and women representing the Federal Board, the State authorities, and the local community.

For criticism and helpful suggestions acknowledgment is due to Miss Cleo Murtland, associate professor of industrial education, University of Michigan; and to the women who reviewed the manuscript:

Miss Mary Anderson, director, Woman's Bureau, United States Department of Labor, Washington.

Miss Griselda Ellis, principal Vocational School for Girls, Newark, N. J.

Miss Mary Gilson, superintendent employment and service, Joseph & Feiss Co., Cleveland, Ohio.

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Miss Ethel M. Smith, secretary, legislative committee, National Woman's Trade Union League, Washington.

Mrs. Eva Whiting White, educational director, College Settlement, New York.

This bulletin may be considered as an official answer to the many inquiries concerning matters of policy in trade and industrial education for girls and women received by the office of the Federal Board.

L. S. HAWKINS,

*Assistant Director, Vocational Education.*

# TRADE AND INDUSTRIAL EDUCATION FOR GIRLS AND WOMEN.

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## INTRODUCTION.

The attention of the public is focused sharply upon women wage earners.

The most casual observer has not failed to note the expansion in numbers of women employed, the influx of inexperienced workers into new fields of labor, the redistribution of working women in different occupations, the actual changes in the industrial processes, and the degree to which industry is becoming reorganized on a new basis so as to include women workers among employees. This social and economic movement of our day is placing tremendous responsibilities upon society for the construction of a program of purposeful education that will insure the best type of womanhood, and maintain the integrity of the woman worker.

An increasing interest in the development of a program for vocational education as it affects these girls and women is shown by the number of national organizations which have recorded their approval and support of the Federal vocational education act. This cumulative weight of public opinion should encourage States and local communities to proceed to the organization and establishment of vocational courses and schools commensurate with the needs of women workers and the numbers involved.

The educational advantages provided under the terms of this act are extended to both men and women. Hence, the interpretations and policies already set forth, in Bulletins Nos. 1, 17, 18, and 19,<sup>1</sup> are applicable to all workers without regard to sex. These policies are simply restated here in terms applicable to the organization and operation of a vocational education program for girls and women.

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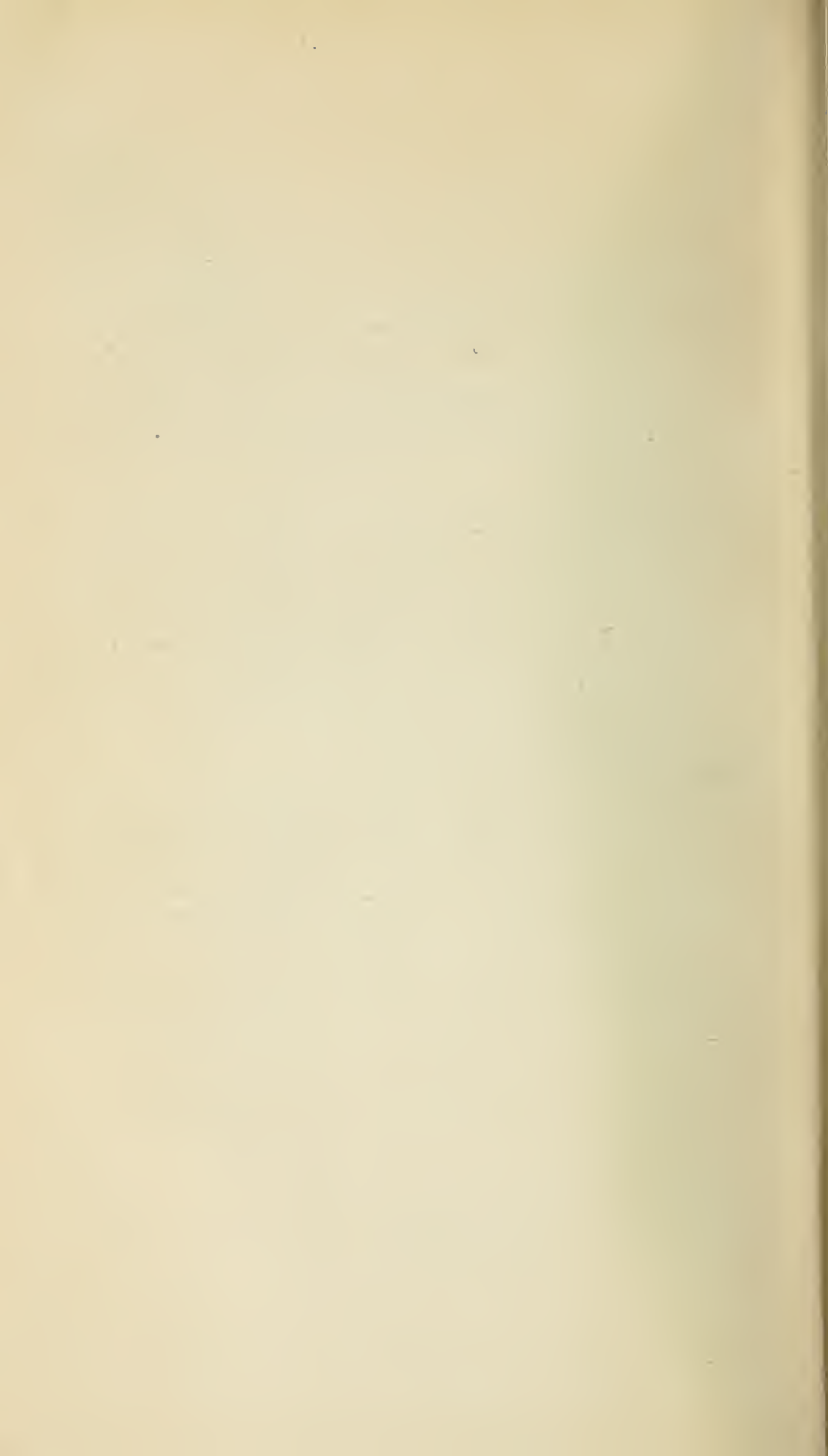
<sup>1</sup> Publications of the Federal Board for Vocational Education :

Bulletin No. 1 : Statement of Policies.

Bulletin No. 17 : Trade and Industrial Education—Organization and Administration.

Bulletin No. 18 : Evening Industrial Schools.

Bulletin No. 19 : Part-time Trade and Industrial Education.



## PART I.

### ECONOMIC AND SOCIAL ASPECTS OF VOCATIONAL EDUCATION FOR GIRLS AND WOMEN.

#### I. EXPANSION OF OPPORTUNITIES FOR VOCATIONAL EDUCATION FOR GIRLS AND WOMEN POSSIBLE UNDER THE FEDERAL VOCATIONAL EDUCATION ACT.

The Federal vocational education act was passed in order to provide an opportunity for the preparation and improvement of workers for effective participation in wage-earning pursuits. It likewise anticipated the continuous development and expansion of the industries of the United States.

The act provides for the development of two services. The first of these is the administration of Federal funds to encourage States to inaugurate schools and classes designed primarily (*a*) to prepare persons for entrance to a chosen field of employment, through day trade classes; (*b*) to increase the trade and technical knowledge of those already employed, through part-time and evening schools; (*c*) to prepare teachers, supervisors, and directors for the organization and conduct of such classes. The second service is to extend, through State and local authorities, the friendly offices of the Federal Board for Vocational Education to industries interested in developing programs for training their own workers. For this purpose the act provides for the making of studies, investigations, and reports with particular reference to the determination of courses of instruction and the establishment of classes in the four general industrial fields, namely, (1) agriculture, (2) trade and industry, (3) commerce, and (4) home economics.

The passage of the act in February, 1917, came simultaneously with a national awakening and at a time when social, economic, and educational institutions were being brought to a strict accounting for their contributions to our national efficiency.

X The crisis of the war brought into the Nation's consciousness a realization of the extent to which women were responsible for conservation and production of the common commodities. The essential task of conservation, complicated by an increased cost of the necessities of life, made insistent claims upon the homemaker. Necessity for increased production with a constantly diminishing labor supply made heavy demands upon wage-earning women. These sudden and

unusual demands effected a redistribution of workers by transfer from nonessential industries, or change in type of employment, and developed a labor supply to meet the demand. This redistribution created the necessity for training for the new and diversified fields of work into which women were being drawn, and in which they are now extensively engaged. The employment of women in these occupations puts upon the community the responsibility for establishing and maintaining suitable training for them. Communities meeting this responsibility are entitled to the benefits of the trade and industrial fund provided under the Federal act.

Three types of training have been recognized up to the present time as serving the needs of the various groups of employees which modern industrial organization demands. These types of training have been developed for three groups of workers: (1) For technical experts, (2) for the producers, and (3) for the supervisory officers.

Training women for technical positions in industrial employment has been limited, is comparatively recent, and has been coincident with industrial specialization.

Training of producers or operatives is still largely unorganized, incidental, and confined chiefly to a method of permitting them to participate in productive processes. In the well-established traditional trades, trade education was begun by private agencies as a means of improving the condition of the worker; while in factory occupations it was the outgrowth of necessity to meet an emergency resulting from demands for an increased output with inexperienced workers.

The training of women for supervisory positions in employment and production departments, though of recent development, has demonstrated its value by the results which women in personnel work obtained by their intelligent selection, placing, and training of workers. As one of the beneficial contributions of the war, this scheme should be continued.

The history of vocational education hitherto has been marked by the neglect of workers in factory occupations. Increasing consumption of factory products demands increased production. This in turn multiplies the quota of women workers. The issue has been evaded by classifying these operatives as unskilled and practically out of reach of training. It is a demonstrable fact that for the better-trained worker and supervisor there is a wider opportunity for choice and greater assurance of promotion. Since training in these two fields for producers and for supervisory officers concerns the worker already employed, wherever men and women are engaged in the same occupations, the same opportunities and provisions for training may be offered to both. By this policy provision is made for

the development of a vocational-education program commensurate with the horizon of women's work.

## II. ECONOMIC AND SOCIAL ASPECTS OF VOCATIONAL EDUCATION.

Certain economic and social forces have at times served to accelerate or retard the evolution resulting from the entrance of women into paid occupations. Four steps in the cycle of the progression are distinguishable: (1) Economic stress forces women workers into new fields; (2) society comes to accept their presence as a fact; (3) private enterprise demonstrates the possibilities of educational training and preparation; (4) public agencies ultimately assume this service.

During the Civil War, because of the shortage of men and their indisposition after the war to reenter the profession, women became dominant in the teaching profession and have since remained so. With the advent of the sewing machine and ready-to-wear garments, women went into the garment factories, and also found a new field for their services as saleswomen in department stores. The introduction of the telephone, the typewriter, the multigraph, the telegraph, and other office appliances has added to the numbers of women employed in wage-earning pursuits. As each group of workers became permanent, the need for training was recognized. Normal training was instituted for teachers; commercial classes were inaugurated by private schools and colleges. Though social disapproval of commercial education for the girl has been a decided barrier to its progress, it has now become an established branch of the public-school curriculum.

In industrial centers where women workers are most numerous, the evil results of permitting girls 14 to 16 years old to enter the industrial world unguided, unguarded, unadvised, and untrained has created a sentiment favorable to an extension of the educational program to include trade instruction in day, part-time, and evening schools together with provisions for guidance and placement. Day trade schools for girls are comparatively few, and schools offering industrial courses as part of their work are not common. This is partly due to the long-prevailing public attitude that the industrial world is not the place for women, and that a training which fitted them for anything but home life would be highly undesirable. As their presence became an accepted fact, it was felt that individually their periods of service in industry prior to withdrawal into their own homes were generally too brief to warrant specific trade training. Though women are found in increasing numbers in almost all productive industries, yet comparatively few occupations demanding specialized training have been open to them. In many cases a gen-

eral conviction that girls should have, or were demanding, some vocational training has led to the introduction of the traditional trades, dressmaking and millinery—into schools with little consideration of local conditions of work, wages, or chances of employment. There has been little recognition of training possibilities for vocations that might offer better opportunities for girls.<sup>2</sup>

Enlarging the scope of women's work has been a matter of breaking down prejudices on the part of the employer and of the worker herself, a matter of reforming social attitudes toward different types of employment and of recognizing that training is both necessary and desirable for the occupations in which women are engaged. Again under the stress of war, the public has accepted many situations without debate, and has revised and readjusted its standards. Out of this reconstructed social and educational background a program of education for fields of work in which women are now employed is being formulated.

It is clearly seen that the problems of employment and training of women workers are numerous, that they are, from the standpoint of social psychology, economic organization, and educational adjustment, intricate and complex.

The girl wage earner is characterized by youth, inexperience, and limited school attainment. She is usually limited to a local market for her labor. She meets with sharp competition, and receives a meager wage because she is considered to be part of a family group, merely a contributor to her own support.<sup>3</sup> Matrimonial expectancy is a chance factor causing her employment to be regarded by all parties concerned as casual or temporary. Because of social attitudes toward her and her work, she tends to develop into an opportunist with attention and interest centered in the immediate. Though she oftentimes assumes financial responsibilities at home,<sup>4</sup> yet she is disinclined to seek out more complicated work or greater responsibilities in the field of her labor. Her indifference to greater responsibilities and their rewards and her apathy toward planning for future advancement is a reflection of the spirit of society toward her as a worker.

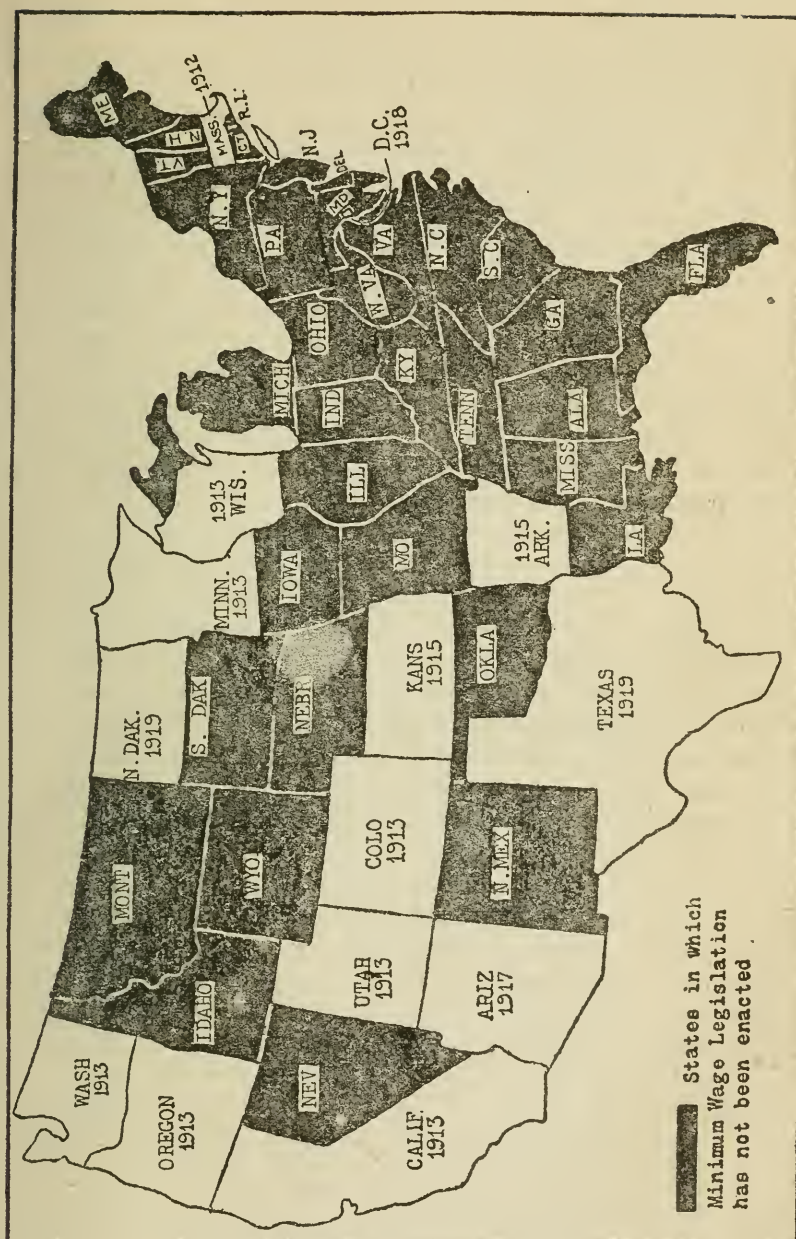
Then, too, industrial employment is underrated as a field of service to society. A pay envelope should stand for a contribution to economic values through quantity and quality of production or service. It is a return for a service rendered under conditions approved of by society as suitable to insure the well-being of the

<sup>2</sup> Report of Committee on Industrial Education of the American Federation of Labor, 1912. Senate Document 936, second session, Sixty-second Congress, pp. 62, 92.

<sup>3</sup> Five Theories of Women's Wages. Dorothy Douglas. Quarterly Journal of Economics, February, 1920.

<sup>4</sup> Survey of Wage-earning Girls Below Sixteen Years of Age, in Wilkes-Barre, Pa., 1915. Sarah H. Atherton. National Consumers' League, New York, pp. 14 and 15.

## MINIMUM WAGE LEGISLATION IN THE STATES.



worker in fulfilling her obligation to society. This pay envelope assures the girl that she has made a contribution which the world recognizes and upon which it has set a measurable value.

Social workers and economists have seen the necessity for bringing to the attention of employers and consumers the current difficulties encountered by girls and women in industry. Through their efforts a program of legislation is being developed to protect the present worker in the light of her future potentialities. See map on page 13 showing extent of minimum wage legislation in the United States, and a map on page 15 showing the legal limitations of working hours for women in the States.

Having no background of experience on which to base her judgments, the young worker has been a poor bargainer. On the basis that the girl should not work until she is able to earn a living wage—the age of compulsory school attendance has been raised, and the issuance of work permits has been assumed as a part of public school duties. Educational supervision has been extended to the working group for a limited period providing both instruction and protective measures.

Minimum-wage legislation tends to keep the girl in school longer; to increase the age of entrance into employment; to raise the average intelligence of the beginning worker; and to make possible an instructional program fitting for employment or related to the daily occupation.

Some States anticipating the value of training to the worker, the cost of which the industry should bear, have provided that the learning period be determined, and that the employer provide reasonable opportunity for the progression of the worker. It is the work of the educational agent of any State industrial commission to see that this period is neither too short, thereby working an injustice to the employer, nor too long, thereby retarding the advancement of the worker. Close scrutiny of occupations in industry and their demands upon the worker are necessary to determine the normal period.<sup>5</sup>

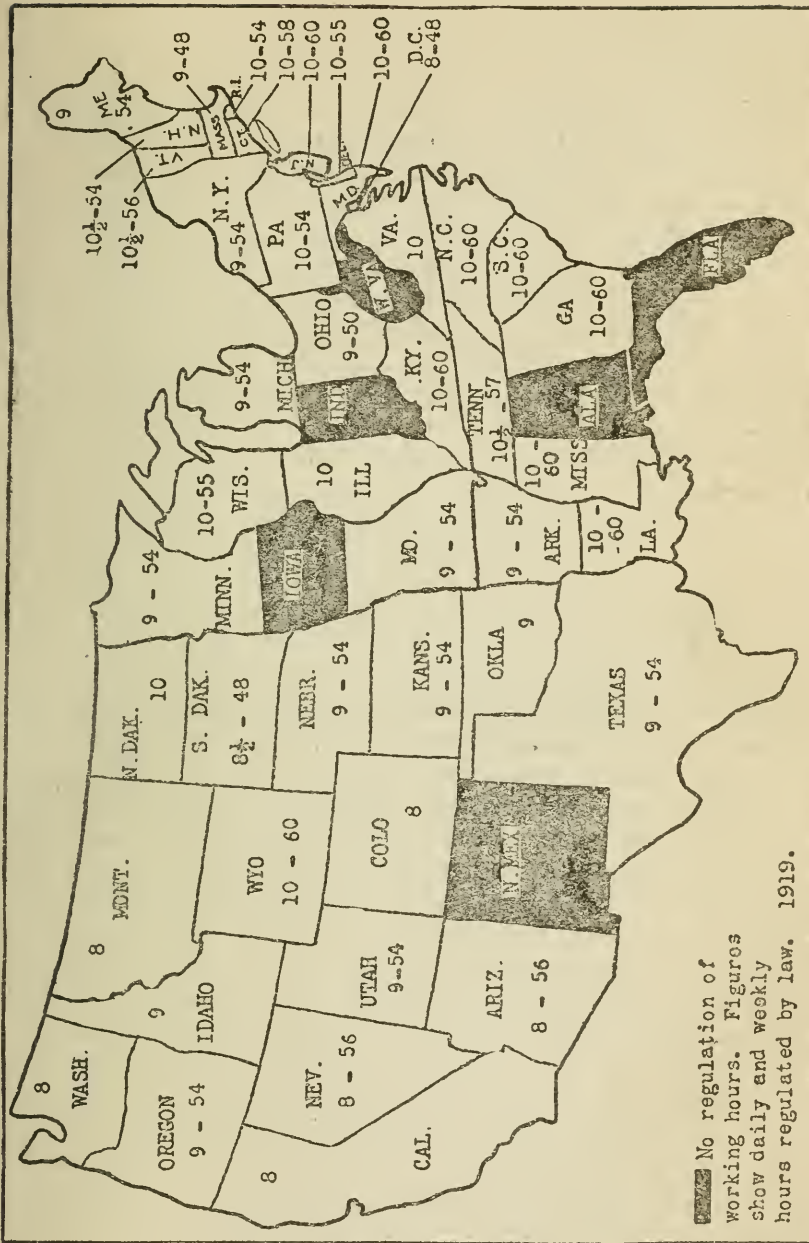
Minimum wage indirectly brings about a more careful selection of workers in order that a larger amount of business may be handled by fewer workers who will receive in turn the added advantage of occupational training.

Society recognizes its right to insure itself against low standards of intelligence, intellectual waste, and human wreckage. Through social-educational legislation it protects itself as a unit by safeguarding the interests of groups.

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<sup>5</sup> Minimum Wage Commissions. Current Facts, January, 1920, Consumers' League, p. 3. Thirteen States and the District of Columbia have some form of minimum wage legislation.

LEGAL LIMITATIONS OF WORKING HOURS FOR WOMEN IN THE STATES.



To this end, during the war, England passed measures requiring compulsory day-school attendance until 16 years of age, and part-time instruction of juvenile workers between the ages of 14 and 18.<sup>6</sup> During the last year this movement has spread rapidly in the United States. At the present time 19 states<sup>7</sup> have provided compulsory instruction from four to eight hours per week during the regular hours of the working day. (See map on p. 4.) Though this period may seem relatively short, it is sufficient to establish the fact that the child is a responsibility of the State, amenable to its demands, subject to its discipline and protection; that she has not reached the status of the adult wage earner upon entrance into employment, but reserves her greatest contribution to society for her maturer years.

Educators and the people as sponsors of education must recognize the bearings which these social and economic factors have upon the inauguration and operation of a program of vocational education for girls and women as provided under the terms of the Federal vocational act.

### III. FUNDAMENTAL DISTINCTIONS BETWEEN HOMEMAKING AND INDUSTRIAL EDUCATION.

A consideration of the pursuits in which women are engaged, and of the probable demands upon their labor, is necessary to the formulation of an educational program for them as workers.

In the main historical development presents two types of wage-earning occupations for women, namely those which were originally household occupations and those which have had an industrial origin independent of the household.

Woman has always been a factor in industrial life. As a producer in the early stages of industrial development she was engaged in varied processes relating to food, clothing, and shelter for her family within her own household, and she has moreover been employed in all the diversified occupations which center around the care and rearing of children. When the home was the center of industry, her training for homemaking was obtained through assistance in the varied household tasks; her industrial training was gained by participation in the productive work carried on in the home. Thus homemaking and industrial occupation were supplementary and interdependent. The girl's indenture for apprenticeship, unlike that of a boy, did not stipulate that she was to be taught a specific trade, hence she received

<sup>6</sup> School and Society, Vol. XI, No. 261, p. 88, January 17, 1920. Under section 10 of the education act (Great Britain) passed August 7, 1918, an obligation is laid on every young person between 14 and 16 years of age, who is not receiving equivalent education elsewhere, to attend a continuation school for 320, or at least 280, hours each year. In seven years after this section comes into operation the number of hours must be 320 in each year, and the pupils must attend up to 18, instead of 16 years of age.

<sup>7</sup> Wisconsin passed the first law in 1911.

a general training in spinning, weaving, and numerous other household tasks.<sup>8</sup> Schools for spinning, weaving, straw plaiting, etc., were developed in accordance with Puritan ideals of "cultivating the virtue of industry" and avoiding "the sins of idleness."<sup>9</sup> To-day society recognizes the responsibility of the schools for training in home-making occupations, but has not yet recognized the responsibility for industrial training—leaving this to industry. The paramount problems of food and clothing in the home, most of which are matters of selection and conservation, are frequently misconstrued as problems of production. Failure to recognize these changed conditions is responsible for the confusion that commonly prevails relative to the fundamental differences between preparation for the duties of the home as it exists to-day, and preparation for modern industrial life.

The congestion of population in urban centers, and the demand for increased production have alike wrought changes in the home and in industry. Former household activities have become specialized occupations, some of which have been forced into mills and factories, whole industries being organized about them. Throngs of women now find a livelihood in these occupations and a market for their labor.

The second group of women's employments includes those occupations which never have been carried on as home processes, but which are a development of modern industrial organization with its array of specialized machines, appliances, and devices for increasing production, facilitating records, and developing clerical efficiency in office administration. The use of power-driven machines in weaving, knitting, stitching, printing, watchmaking, jewelry, and metal trades, together with the use of the telegraph, typewriter, comptometer, adding machine, etc., has created types of occupations in fields which were originally occupied by men, but which have been taken over by women operatives as specialized machines have made possible the use of women's labor. These have been recognized as women's occupations in proportion as men have been diverted to other fields. The social stigma attached to their pursuit has diminished.

As women have entered into industrial employment outside the home there has arisen a tendency to legislate and regulate certain conditions for the protection of the women workers and of society. These measures usually antedate the consideration of industrial training, and while they modify the standards of employment they are in no sense a substitute for the benefits accruing to the worker from education, and should not be so regarded. Training for those

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<sup>8</sup> Willystine Goodsell: *The Family as a Social and Educational Institution*, p. 402.

<sup>9</sup> Spinning school established in Boston, 1720, by public philanthropist. School for straw plaiting established in Baltimore, 1824.

industries which remain in the home in a limited degree—cooking and sewing—has developed as home-making education. When the demand arose for preparing the girl for wage earning, the same instruction was assumed to be adequate, thus circumscribing the courses offered and establishing a barrier to further educational experiment in the field of industrial education.

Employments in the home and in industry, though emanating from the same sources, are progressing along widely divergent lines. The home maker is becoming increasingly a consumer of goods and of service, while the wage earner either is relegated to productive employment outside the horizon of the household, or becomes a purveyor of a limited service to large numbers.

Industry has become institutionalized largely to the degree to which mechanical appliances have superseded hand labor. Thus spinning, weaving, knitting, dyeing, garment making, shoe making, dairying, food packing, canning, baking, laundering, and the like, are to-day industries of tremendous proportions, in which woman is not a new factor but a changed factor. She is employed in operative and directive positions requiring varying degrees of responsibility and skill, both in production and in distribution of output.

Service activities of the home have become segregated and institutionalized. Schools are maintained for educational purposes; hospitals for care of the sick; churches for public worship; theaters, playgrounds, parks, museums, and libraries for recreational purposes; tea rooms, clubs, and cafés supplement the hospitality of the home. To meet these needs we have a suitable host of trained workers—teachers, nurses, play-ground directors, social workers, librarians, dietitians, caterers, waitresses, etc. Each class of workers may again be divided according to the particular service rendered. These services would be impossible on any other basis than that of service to groups and specialization. It is a complicated problem for the home, to establish itself in right relationships among these manifold agencies whose expert service it has power to command.

Public utilities and the distribution of common commodities have become departmentalized through cooperative and concerted action. The controllable factors of environment which have bearing on health, safety, housing, light, water, transportation, etc. have been standardized. The multiple recording, classifying, assembling, checking, and distributing necessary to carry on these commercial enterprises are handled largely by women employed in various types of office and store service.

With this increasingly complex organization of society, the home can not maintain, through diversified occupations, its traditional isolation and independence. The home maker must assume a responsibility toward the problems of the wage earners, toward civic enter-

prises, and toward municipal housekeeping. Either she becomes a factor in them, or the home and society suffer because of her introspective isolation. Vocational home economics education has taken cognizance of these facts, and has formulated a program upon an analysis of the work and functions of the homemaker.

Any analysis of the vocation of home making will demonstrate clearly that it is a composite vocation embracing a wide range of vitally essential social services, which devolve specially upon women in their capacity as home makers. In general, these include the following fairly separate and distinct lines of vocational activity:

- (a) The care and rearing of children.
- (b) The care of the house and its equipment.
- (c) The selection, preparation, and serving of food.
- (d) The selection and care of clothing, and to some extent its actual construction.
- (e) The care of the health of the family.

Home making is also a business and a social enterprise. As the manager of a business enterprise, the home maker must determine the expenditure of the family income and must direct or perform the labor involved in running the plant. As a partner at the head of a social and civic unit, she is very largely responsible for the educational, moral, and social standards of the home.<sup>10</sup>

It can be readily observed that occupations differentiated in industrial service and in commercial employment differ radically from the occupation of the home maker. The differences which characterize training along these several lines are consequent upon an acknowledgment of the distinct character of the occupations themselves. The group whose well-being and comfort is to be conserved by the home maker is bound together in domestic relationships by family ties involving intimate and unselfish concessions on the part of its individual members.

The fundamental distinction between home economics education and certain forms of industrial education for women's trades inheres in the occupations themselves. As has been stated before, home making is a composite of undifferentiated occupations requiring various forms of skill and of related knowledge. The wage-earning occupations, such as dressmaking, catering, practical nursing, millinery, etc., are specialized occupations requiring a high degree of special skill in one field, together with related knowledge in that field. The aim of home economics education is preparation for the work of the house daughter, home maker, or household assistant employed in this composite vocation. The aim of above forms of industrial education is preparation for wage earning in these specialized occupations. Distinctions between home making schools and industrial or trade schools for girls may be made upon the basis of (1) the aim of the instruction; (2) an examination of courses of study as adapted to the preparation for the composite vocation or for a specialized vocation; (3) the material and methods of instruction employed; and (4) the relation of the instruction to later employment.<sup>11</sup>

<sup>10</sup> "Survey of the Needs in the Field of Vocational Home Economics Education," p. 10. Bulletin No. 37, Home Economics Series, No. 4.

<sup>11</sup> "Home Economics—Organization and Administration, p. 16, Bulletin No. 28, Home Economics Series, No. 2.

The purpose of trade or industrial education is fourfold: (1) to prepare the girl for advantageous entrance into the field of wage-earning; (2) to equip the girl for progression or advancement in the type of work in which she is already engaged; (3) to enable the girl or woman already employed to improve her civic and vocational intelligence; and (4) to enable the employed girl or woman to change to a more congenial or profitable occupation. To the employer this means an improved product, increased output, better morale, and decreased labor turnover; to the worker it means real cooperation in industry, which results in higher wages and a better standard of living; and to the community, in consequence of these things, it means a better citizenry. The training is intensive for one specialized occupation, or for groups of related occupations, and is such as will equip the workers for placement and steady employment.

The vocational teaching must be done by persons having skill and experience in the trade, who keep abreast of the latest and best trade practices. Related subjects, a knowledge of which adds to the skill and adaptability of the worker, must be taught as they function in these trades. Nonvocational subjects, for general interest and information and social development, supplement and balance the program. The educational value of an experience to the worker must be the ultimate test of its admission to the curriculum. A follow-up of the worker should check the value of the instruction. Each school department or class must be classified according to the aim of the group enrolled. The content of the course and the method of presentation will necessarily vary according to the vocational and educational experience of the group.

#### IV. VOCATIONAL EDUCATION FOR GIRLS AND WOMEN A TWO-FOLD PROBLEM.

The duties and responsibilities of the woman wage earner, as well as of the homemaker; indicate the two-fold nature of the problem of vocational education as it concerns girls and women. These groups are not mutually exclusive, either in personnel, or in interests. In order that each individual may be assured the opportunity of doing the highest type of productive service in both capacities, it is necessary to provide training for both. The Department of Vocational Home Economics has set for itself the task of reaching the following social groups: Older groups of girls and women out of school, younger groups of girls who are at work, groups of girls in school, and groups of foreign girls and women.<sup>12</sup>

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<sup>12</sup> See Bulletin No. 37, Home Economics Series, No. 4, entitled "Survey of the Needs in the Field of Vocational Home Economics Education," p. 17.

Trade and industrial education must recognize three possible groups defined with respect to the wage-earning experiences of girls and women; (1) Those who work only prior to marriage; (2) those who whether married or not continue in employment indefinitely; and (3) those who after marriage enter on or return to wage earning.

An analysis of the problems which confront the girl or woman who enters the field of wage-earning occupations may be briefly stated as follows:

1. To possess a marketable asset dependent upon natural ability and training.

2. To secure employment, which requires some knowledge of the labor market and its conditioning factors.

3. To adjust herself to standardized conditions of work based on interresponsibility of employer and employee.

4. To produce a standard output in quantity and quality on the basis of which her wage is determined.

5. To cooperate with groups charged with like tasks to conserve the interests of the worker, the integrity of workmanship, and the morale of the force.

6. To achieve economic independence under conditions which will insure maintenance of a suitable standard of living, self-support, and provision for dependents.<sup>13</sup>

7. To overcome the difficulty caused by the assumption that women can not render effective service in supervisory and managerial positions.

Preparation for a productive occupation pursued to its fullest wage-earning possibilities presupposes deliberate choice, investment of time and money, and assurance of placement.

By the shortest route to the pay envelope now scheduled in the public schools, the commercial courses, increasingly large groups of girls are giving evidence of their consideration of the advantages of training as a means of present self-support; as a means of obtaining further educational opportunities; and as a means of assuring themselves of economic independence.<sup>14</sup>

The girl whose personal desires can no longer be considered family necessities, and who is thrown upon her own resources to supply

<sup>13</sup> See "Cost of Living for Working Women: A Criticism of Current Theories," by Dorothy W. Douglas. *Quarterly Journal of Economics*, February, 1920.

<sup>14</sup> In the report of Commissioner of Education for 1915, F. V. Thompson, superintendent of Boston Public Schools, writes: "Commercial pupils constitute at least one-fourth of all high school pupils, ten times as many as there are agricultural students, five times as many as there are students of domestic arts, and nearly twice as many as are found in all our higher educational institutions, and these figures do not include perhaps one hundred thousand who were not tabulated in the returns to the Commission of Education." Quoted in *The Journal Polit. Econ.*, Vol. XXVIII, No. 2, Feb., 1920, by Mr. Thompson in an article on the "Relation of Collegiate School of Business to Secondary School System," p. 159.

them; the girl urged by the indefinite and nondescript demands originating in her association with youthful companions or in the fancied social position of her family; the girl whose unpromising school record argues limited school expectancy; the girl bearing the burden of financial responsibility for self-maintenance or for the care of dependents, which her earnings alone can meet—all of these girls, with or without guidance, and irrespective of their qualifications, are shunted into the only course in the public school with wage-earning possibilities.

An enlightened public opinion relative to industrial employments for girls and women based on facts is necessary to reach the groups of industrial wage earners with a program for vocational education adequate to meet the needs of the girl who is preparing for employment, or who is already employed, and of the adult woman wage earner.

Educational administrators, employers, employees, and prospective workers must actively engage in removing the cause for discrimination against industrial employment and advancement for girls and women. They must strive to bring about a realignment of attitudes toward one another, and must learn to appreciate fairly the social justification of making industrial employment yield the largest possible educational and economic returns to the worker. They must cooperate in determining what instruction can be most advantageously offered; the best method of providing it; and the service which the local public school may render in establishing the program.

#### V. WOMEN IN INDUSTRY AN INCREASINGLY IMPORTANT NATIONAL PROBLEM—ANALYSIS AND FORECAST.

For girls and women the opportunities for education and training leading to gainful occupations have been broadened by coeducation. Also it is true that new vocations for which women are especially fitted have multiplied as a result of the mechanical and manufacturing development of the last few decades. It is, therefore, not surprising that the rush of women into wage-earning employments year by year has been as noticeable as the increase in demand for women workers in these employments. In a comparatively brief period the industrial employment of women has become a matter of national and even of international significance.<sup>15</sup>

Although the influence of the war upon the employment of women has been far reaching, it was not in itself the original occasion of the entrance of women into industrial work. From 1880 to 1910 the number of women in the whole United States in industrial employment increased threefold. For the last generation the number

<sup>15</sup> See Report of First International Conference of Working Women, October 28, 1919–November 9, 1919, Washington, D. C.

of women in manufacturing industries has increased more rapidly than the number of men, hence the recent influx of women into wage-earning pursuits may be looked upon as an acceleration of a normal development rather than an innovation.

It is not surprising that the facts and figures relative to the employment of women are outside the usual range of observation and experience of the general public. Even available sources of such information are not generally known to people engaged in the teaching profession. Traditional and personal prejudices against the employment of women still persist in the minds of many people. It is necessary, therefore, to provide information to wear away these prejudices, to enlist the attention of people in order to stimulate their observation and thought on the subject, and to awaken them to a realization of the conditions prevailing in their own States and communities. This sort of preliminary work must be done to prepare the way for the development of vocational education for women.

Authentic detailed figures relative to women in gainful occupations at the present time are unfortunately lacking. Until returns from the United States Census of 1920 are available, the statistics of 1910 and for previous census years must suffice to indicate the changes which have been taking place in recent decades. Of females 10 years of age and over in 1880 not more than 14.7 per cent were engaged in gainful occupations. In the 20 years, 1880 to 1900, the proportion increased to 18.8 per cent, and by 1910 it had jumped to 23.4 per cent. To-day the number is conservatively estimated at 12,000,000.<sup>16</sup>

Of the 8,075,772 women reported in the 1910 census as being gainfully employed, 31.3 per cent were listed under domestic and personal service; approximately one-fourth, or 22.4 per cent, were in agricultural pursuits; about the same proportion, 22.5 per cent, in mechanical and manufacturing industries; 14.6 per cent were employed in trade and transportation, or commercial work; and 9.1 per cent were engaged in professional pursuits.<sup>17</sup> (See diagram on page 24.)

More recent figures concerning the employment of women in industry are those of the National Consumer's League (1918). The following figures<sup>18</sup> from that source represent not women who have been newly added in American industries but women already mill trained who were transferred to war essential employments.<sup>19</sup>

<sup>16</sup> Women's Bureau. Hearings before the Joint Committees on Labor, Congress of the United States, 66th Cong., 2d sess., on S. 4002, H. R. 1134, H. R. 12679, Mar. 4, 1920, p. 20. Testimony by Mary Van Kleeck.

<sup>17</sup> United States Census, 1919, Vol. IV, p. 57.

<sup>18</sup> These estimates were based in part on known numbers employed in newly established plants, and on a 20 per cent increase over 1910 Census figures for long-established metal trades and plants holding direct or subsidiary war orders.

<sup>19</sup> Figures given are as quoted in "War Time Problems of Industrial Women." Industrial Campaign Series No. 2, Part I, p. 6.

*Total women in war and other essential industries, 1,517,000.*

In canneries (over half of force) .....	80,000
In food, drug, spice, tobacco, and similar factories.....	125,000
In textiles.....	275,000
In clothing factories (with 150,000 men).....	212,000
In hosiery and knit goods (with 50,000 men).....	130,000
In shoe factories—principally Massachusetts, Missouri, and New York (with 208,000 men).....	95,000
	<hr/> 917,000
Engaged in manufacturing general equipment (100,000 of these are making bolts and rivets, running drill presses and working in machine shops and foundries, and 100,000 are in munitions work) ..	600,000
	<hr/> 1,517,000

INDUSTRIAL DISTRIBUTION OF GAINFULLY EMPLOYED WOMEN AND  
GIRLS, 10 YEARS OF AGE AND OVER, 1910 (U. S. CENSUS).

Classification	Number	Per cent					
		0	5	10	15	20	25 30
All occupations, Total.....	8,075,772	100.0					
Domestic and personal service...	2,530,846	31.3					
Manufacturing and mechanical....	1,820,980	22.5					
Agricultural pursuits.....	1,607,501	22.4					
Professional service.....	733,885	9.1					
Clerical occupations.....	593,224	7.3					
Trade.....	468,088	5.8					
Transportation.....	106,596	1.3					
Public service.....	13,558	0.1					
Extraction of minerals.....	1,094	0.1					

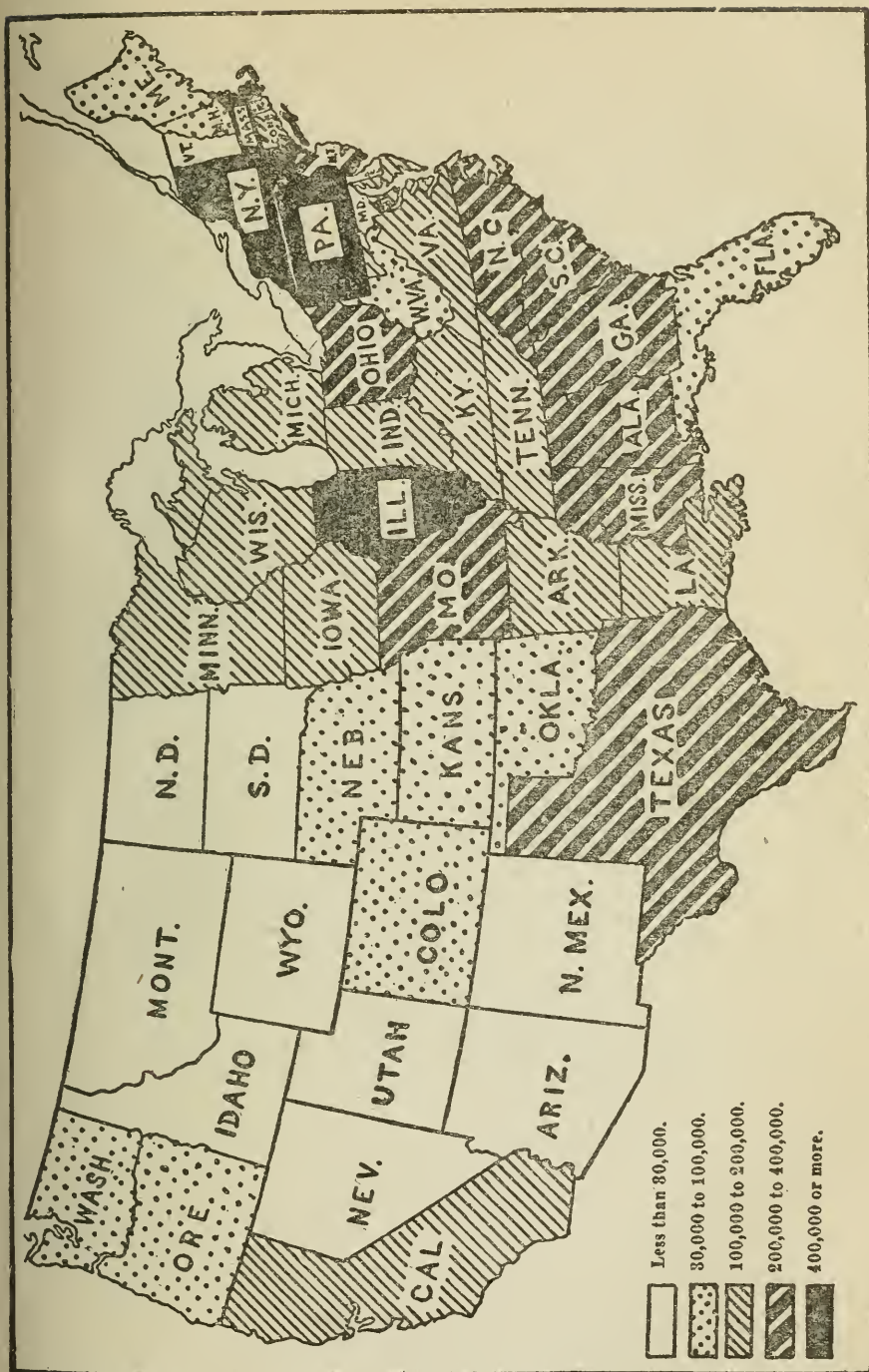
The geographical distribution of the women workers in 1910 is indicated by the following table in which percentages of women in age groups in gainful occupations are listed under States which are representative of each of the geographical regions of the country. They present neither the maximum nor minimum percentage.

*Percentage gainfully employed in 1910 of women in specified age groups.*

[United States Census, 1910, Vol. IV, p. 73.]

State.	10-13 years.	14-15 years.	16-20 years.	21-44 years.	45 and upward.
United States.....	Percentage. 8.0	Percentage. 19.8	Percentage. 30.9	Percentage. 26.3	Percentage. 15.7
Massachusetts.....	.3	23.5	60.3	38.6	18.1
Pennsylvania.....	1.3	20.9	43.8	23.1	12.6
Illinois.....	.5	13.0	42.7	22.6	11.3
Missouri.....	1.3	10.3	28.3	19.8	12.3
Georgia.....	28.4	41.8	46.0	39.7	29.3
Colorado.....	1.3	6.1	25.0	22.2	16.3
California.....	.4	6.6	31.2	24.7	14.4

# GAINTFULLY EMPLOYED WOMEN AND GIRLS 10 YEARS OF AGE AND OVER, BY STATES.



As will be seen from the above table, the highest proportion gainfully employed is from the age period 10 to 20 years, during which period practically two-fifths, or 40 per cent, of all women were working for wages. Approximately this proportion would probably be found to apply to the age period 16 to 24 years. The distribution of gainfully employed women and girls 10 years of age and over by States in 1910 is graphically shown for the country as a whole by the map on page 25.

Women of all ages are wage earners, as will appear from the following summary statement based upon census returns for 1910:

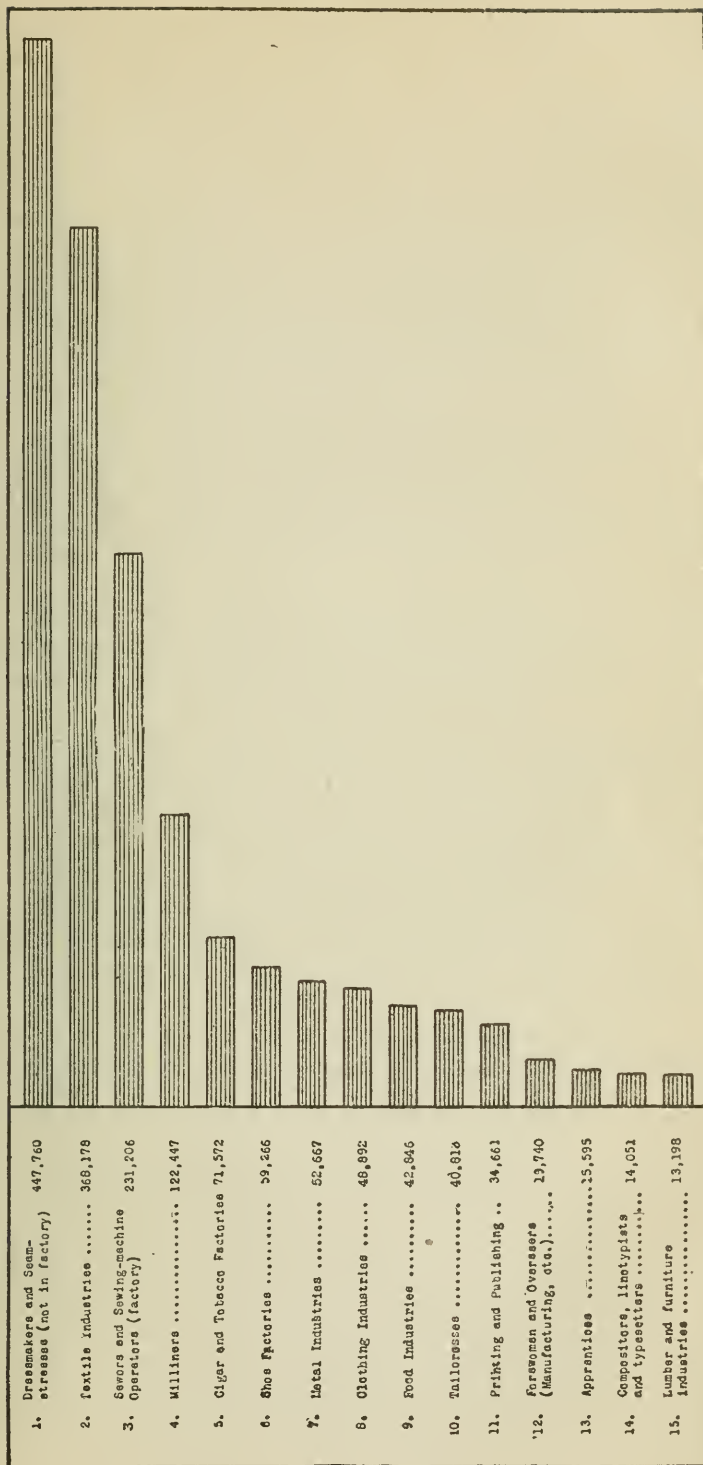
Age period.	Women and girls: 1910.			
	Total number.	Engaged in gainful occupations.		
		Number.	Per cent.	Ratio.
10 years and over.....	34,552,712	8,075,772	23.4	1 in 4
10 to 13 years.....	3,593,239	286,946	8.0	1 in 12
14 to 15 years.....	1,770,898	350,140	19.8	1 in 5
16 to 20 years.....	4,632,821	1,847,600	39.9	2 in 5
21 to 44 years.....	16,331,449	4,302,969	26.3	1 in 4
45 and over.....	8,224,305	1,283,117	15.7	1 in 7

Though women are employed in a wide diversity of industries, yet the number of processes and operations within those industries open to them has been decidedly limited. This is true although the United States Census (Vol. IV., p. 53) reports women workers in 105 out of 116 principal occupations, and a more complete census tabulation (Vol. IV., p. 91) shows women employed in 1910 in 385 out of 428 occupations.

The following list of industries employing women at manufacturing and mechanical pursuits is arranged according to their relative importance in consideration of numbers of women workers reported in 1910. (See also diagram on page 27):

1. Dressmakers and seamstresses (not in factory).
2. Textile industries.
3. Sewers and sewing-machine operators (factory).
4. Milliners.
5. Cigar and tobacco factories.
6. Shoe factories.
7. Metal industries.
8. Clothing industries.
9. Food industries.
10. Tailoresses.
11. Printing and publishing.
12. Forewomen and overseers (manufacturing, etc.)
13. Apprentices.
14. Compositors, linotypist and typesetter.
15. Lumber and furniture industries.

WOMEN AND GIRLS 10 YEARS OF AGE AND OVER EMPLOYED IN SPECIFIED MANUFACTURING AND MECHANICAL PURSUITS, 1910.  
(U. S. CENSUS.)



It has been commonly supposed that there are certain types of employments which may be termed man-employing occupations, other types of employments which may be considered women-employing occupations, and still others at which both men and women may be employed. Which sex shall be employed at the different operations seems to be determined by the whims of local tradition or of individual prejudice. As a result of the great increase in numbers of women employed, the diversity of their employment, and the quantity and quality of their work, more general intelligence is being directed toward the selection and placement of women workers by measuring their qualifications with the requirements of the job. The percentage of women, therefore, in many industries is undergoing rapid changes.

The cotton industry and the clothing trades belonged historically to women, but are at present followed by men also; the shoe industry, historically a man's trade, has used women's labor for a hundred years; the cigar industry, not an historic industry at all, began as a by-employment for farmers' wives, then became a trade for immigrant men, and later ranks high among the women-employing industries.<sup>20</sup>

As a point of interest, it may be noted that man's share in textiles and clothing, which are women's industries, at present about equals woman's share in boot and shoe manufacturing, which is a man's industry.

The employment of girls and women is conditioned by youth, domestic relationships, labor market, and protective legislation. Because of youth, inexperience, and ignorance of the value of cooperation the girl worker is a poor bargainer.<sup>21</sup> In these facts lies the occasion for the State to assume a protectorate over her interests, requiring a minimum of educational attainment, setting a minimum age of entrance to employment, protecting her from the physical and moral hazards of undesirable occupations, setting a wage scale for her labor, etc. Although this legislation providing for the protection of health, moral character, standards of living, and family responsibilities is primarily designed in the interest of woman's obligation to herself and to society as a citizen, mother, defender, and producer, yet these restrictions often work a hardship in individual cases and, under poor direction, seem oppressive. They should obviously not be pressed to the point of handicapping the worker herself in bargaining for employment under fair conditions.

A casual survey of the advertisements of any metropolitan daily will suffice to establish the fact that the young girl wage earner enters a market in which the competition for her labor is sharp. Many em-

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<sup>20</sup> Edith Abbott. *Women in Industry*, p. 86.

<sup>21</sup> Ethel M. Smith, Secretary Legislative Committee, National Women's Trade Union League, Washington, D. C., reports a membership of 600,000 regular and allied members.

ployers specify that the "applicants must be between the ages of 17 and 24;" and add such inducements as, "no training necessary;" "paid while learning;" "advancement guaranteed;" and "promotion assured." That the psychology of environment and its effect upon the girl in influencing her choice of employment is understood can be seen from the extent to which "agreeable surroundings," "rest rooms," "social opportunities," "food at cost," etc., are featured in the "help wanted" columns.

The fact that the girl is supposed to remain under the protection of her home until marriage, and if employed after marriage must generally confine her services to a local market, tends to limit her opportunities for employment to local industries.

Married women engaged in gainful occupations outside the home are still a minority of all married women, although the numbers so employed is steadily on the increase.<sup>22</sup> The war and its consequent shortage of workers salvaged the middle-aged woman worker, returning her from casual to permanent industrial employment after she had reared her children to a state of self-dependence.

Over 25 per cent of our working women in 1910 were married; 15.4 per cent were widowed or divorced. Unquestionably a large part of the remaining 60 per cent who were single shared family responsibilities. The number of married women contributing to the family income by their labor is increasing, and the period of time which women spend in industry, variously estimated from three to seven years,<sup>23</sup> is lengthening.

Those who hold the belief that wage earning by married women is not an American problem overlook the economic forces and the desire for purposeful activity which are driving married women, as well as young girls, to gainful employment.<sup>24</sup> In 23 miscellaneous factory industries scattered through 17 States, the Federal Bureau of Labor Statistics found in 1909 that 12.4 per cent of the women workers were married. Of the women over 20 years of age more than one-fifth, 22.6 per cent, were married. Of American white women in the selected industries 9.9 per cent were married. In the four largest of the industries covered the percentage of married women over 20 years of age was as follows:<sup>25</sup>

<sup>22</sup> A history of the Family as a Social and Educational Institution. Willystine Goodsell, p. 519.

<sup>23</sup> Industrial Experience of Boston Trade School Girls, p. 78. Bulletin of the U. S. Bureau of Labor Statistics, No. 215. (1917.)

<sup>24</sup> Cost of Living in the United States, p. 30. Monthly Labor Review, Vol. IX, No. 6, December, 1919. In this study exclusions were made "to secure families dependent for support as largely as possible upon the earnings of the husband." The investigation covered 92 cities in the United States and 12,096 families of five members. Of this number 1,073 families supplemented income through earnings of the wife; 2,252 families supplemented income through earnings of children.

<sup>25</sup> Report on Condition of Women and Child Wage-earners in the U. S., Vol. XVIII. Misc. Industries, pp. 27-28. U. S. Bureau of Labor Statistics.

	Per cent.
Cotton textile industry:	
New England group-----	38.4
Southern group-----	40.7
Men's ready-made clothing-----	28.6
Glass industry-----	12.6
Silk industry-----	16.0

Women have been regarded as a casually employed group, a labor reserve upon which industry could depend in times of demand for increased production. That their presence in industry is regarded as a permanent fact of sufficient moment for Congress to continue the service of the Women's Bureau in the Department of Labor is, however, attested by congressional action of June 5, 1920. This bureau has, during the limited period of its existence, formulated standards and policies to promote the welfare of wage-earning women, improve their working conditions, increase their efficiency; and advance their opportunities for profitable employment. To this end they are making a study of the opportunities for vocational training for wage-earning employment for women.<sup>26</sup>

What employments, serviceable to the community, are profitable to woman, in that they are suitable to her well-being, offer adequate wage, and insure progression, is a serious question at the present time in industry for employers, and more especially for women themselves. Certain determining factors are undergoing rapid changes. Immigration has declined in recent years, cutting off, for the time being, one source of additional workers; the preponderance of feminine and minor immigrants is a unique development in the history of our immigration;<sup>27</sup> and there has been during the war period an increasing exodus to the war-ridden countries of Europe so that emigration has exceeded immigration.<sup>28</sup>

The cost of the necessities of life increased 75 per cent in the five years from July, 1914, to June, 1919, and has increased materially since that time.<sup>29</sup> Demands for increased production and the consequent expansion of employment have drawn heavily on the available supply of labor.

<sup>26</sup> Testimony of Mary Anderson, Chief of the Women's Bureau. Hearing before the Joint Committee on Labor, Sixty-sixth Congress, on S. 4002, H. R. 1134, H. R. 12679, p. 55.

<sup>27</sup> Advance sheets, Bureau of Immigration, July 1 to Dec. 31, 1919.

<sup>28</sup> Between November, 1918, and November, 1919, 214,000 emigrants left our shores, and 201,000 immigrants arrived. New York Journal of Commerce, quoted Literary Digest Apr. 24, 1920, p. 12.

<sup>29</sup> Monthly Labor Review, October, 1919, pp. 1-8. A comparison of the results of the cost-of-living surveys made by the National Industrial Conference Board with those of the United States Bureau of Labor Statistics indicates that while the former show an advance of 72 per cent in the cost of living between July, 1914, and July, 1919, the latter show an advance of 75 per cent between July, 1914, and June, 1919. Thus the only two country-wide studies of this most important subject, although made by methods dissimilar in many respects, show results in substantial accord. Taking account of recent price advances it is perhaps fair to say that the cost of living has doubled since 1913.

In no phase of life will all this economic stress be reflected more quickly than in the daily work of men and women. The continuance of employment of women in increasing proportion will depend upon immigration, labor shortage, industrial expansion, economic need, and women's desire to engage in productive work. We are in an era of transition. Industrially we can not think in terms even of a comparatively recent past, since we are confronted with a radically changed and a rapidly changing order of affairs.

The multiple subdivision of industrial processes, and the development of specialized machines adapted to women's powers and abilities, have swept away the traditions of apprenticeship and impaired appreciation of the importance of training.

Occupations within these industries are highly specialized, and the departments frequently so organized that each operation is of equal importance to every other operation. Under these conditions there may be little opportunity for advancement in gradations of skill, and little incentive for transfer from one stage of employment to another. Sufficient experimentation has been made, however, in training workers for entrance into industries, as well as for progression from the intermediate or lower stages to the higher stages of employment, to prove the advantages of intensive short courses.

Prior to the war it had been assumed that training for occupation of this type was unnecessary. It is now generally conceded that the lack of vocational training works as an immeasurable hardship for the young wage earner by holding her productive efficiency below the requirements for earning a normal standard of wage. Garment-making industries, textile industries, knitting industries, metal-trades industries, together with public-service groups, such as the telephone and telegraph corporations, are maintaining successful schools of this kind at the present time in different localities throughout the country. This training may be supplemented by related instruction (1) to give an intelligent background of technical knowledge; (2) to familiarize the worker with the details of plant organization; (3) to increase her civic consciousness and industrial intelligence.

If this instruction is to be Federally aided, it must be given in accordance with the terms of the Federal vocational education act, and the provisions of the State plans approved under that act. In Part II an account is given of the ways and means of realizing a program of vocational education for women and girls.

Any national educational program for girls and women, adequate to the demands and opportunities of the future, must include better general education on the one hand, and better vocational education on the other. Essential elementary knowledge, training, and discipline, "universal, common, and compulsory," affords direct and in-

valuable preliminary training for both occupational efficiency and civic responsibility.<sup>30</sup>

It is important that some measure of instruction for vocational efficiency be assured prior to entrance into wage earning. The length of the course and the nature of the instruction should be determined with reference to the age and educational experience necessary for profitable entrance to the occupation. The election of a course should depend upon the personal qualifications of the worker and the demands of the work. Fourteen years is commonly acknowledged to be the minimum age at which any such instruction can be advantageously given.

While for thorough trade and industrial education, some direct initial training may be given in the day school, yet it is commonly believed that much of this training can only be given parallel to the pursuit of the occupation. Provision may be made for this kind of instruction during the regular hours of the working day when the worker voluntarily or involuntarily attends part-time classes. "This work should be chiefly adapted to the two ends to be attained: It should be civic and vocational, not narrowly but characteristically."<sup>31</sup>

As an adjunct to strictly vocational education for girls and women, it is fundamentally essential that they be given an understanding of the conditions attendant upon wage earning, of the dignity of labor, of its contribution to society, of the possibilities for protection of health, morals, and earning capacity, and of the possibilities of advancement.

It should be the primary aim of preemployment vocational training in those trades where mechanical appliances have supplanted hand labor to fit the worker to perform effectively some specialized work and to make it clear that this is but one stage from which she should pass with additional training, when increased maturity and experience justify advancement.

It should be the primary aim of subsequent or upgrading vocational education to fit the worker for promotion to more advanced stages or for leadership.

It should be an especially important aim of vocational education at later stages to fit women, who expect to remain in wage-earning work, for productive and directive work in fields which demand maturity, experience, and special training that they will not be brought into sharp competition with every young woman worker, no matter what may be the special training of the latter.<sup>32</sup>

Industry will be benefited through training by the improved product, increased output, better service rendered, and a stabilized working force.

The worker will be benefited by the better wage, improvement in the standards of living, and fuller participation in civic affairs.

Society will benefit automatically by the recognition of the service rendered by the woman wage earner or the woman home maker, and

<sup>30</sup> Frank E. Spaulding: *Educating the Nation*. (In *Atlantic Monthly*, April, 1920, p. 529.)

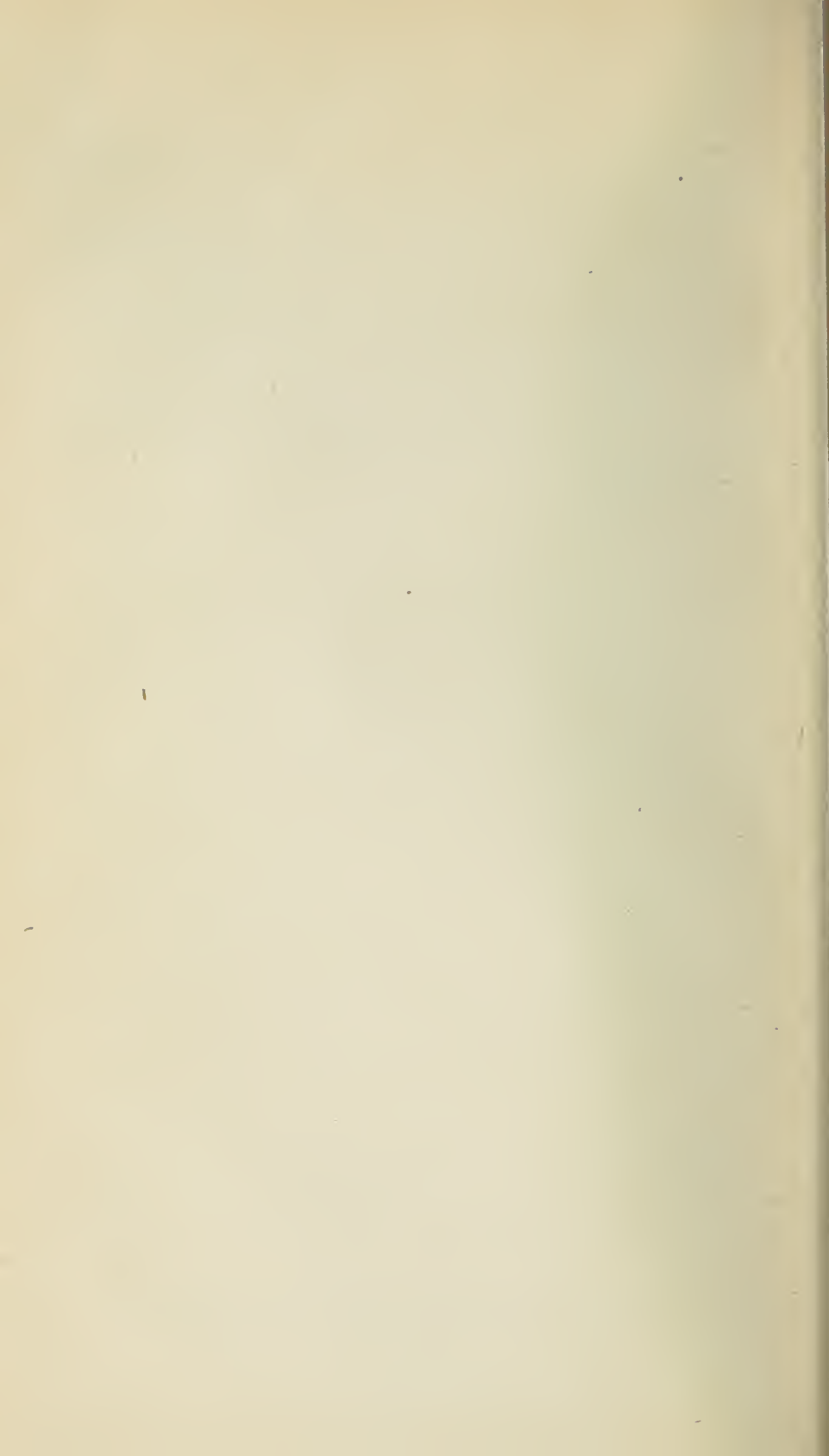
<sup>31</sup> Frank E. Spaulding: *Educating the Nation*. *Atlantic Monthly*, April, 1920.

<sup>32</sup> Report of Committee of Women in Trade and Industrial Education for Girls and Women. National Society for Vocational Education, February, 1920.

by the recognition of her right to participate in educational programs as they relate to her labor.

The Federal vocational education act recognized the need for two types of vocational education, for girls and women, home making and wage earning. In both cases, it provides for the recognition of part-time classes to increase both civic and vocational efficiency; evening classes for instruction related to the day employment; and day classes for preparation for advantageous entrance to the occupation.

The Federal Board for Vocational Education recognizes that classes in trade or technical subjects for girls and women are to be approved upon the same basis as in the case of similar classes established for men under the provisions of the Federal act.



## PART II.

### WAYS AND MEANS OF ESTABLISHING AND OPERATING A PROGRAM OF VOCATIONAL EDUCATION FOR GIRLS AND WOMEN.

#### I. FUNDAMENTAL PRINCIPLES OF FEDERAL AID.

Federal grants for the purpose of developing and promoting educational enterprises are recognized as being governmental devices of increasingly practical importance.<sup>1</sup> They aim to stimulate the undertaking of new enterprises by encouraging the kind of expenditures most desirable in the interests of the country as a whole. They aim to equalize the burden of the cost which is increased for some communities by a relative insufficiency of means available for supporting the cost. They aim to secure uniformity, efficiency, and economy of administration. They aim to make available to all the experience, knowledge, and breadth of view which a central executive department can not fail to acquire.

The Federal vocational education act of 1917 (Public No. 347, 64th Cong.) represents an application of the foregoing principles to a national vocational education program. It provides out of the National Treasury funds made available for cooperation with the States in promoting a kind of education that is now a recognized national need.

#### II. ORGANIZATION FOR ADMINISTRATION TO SECURE THE BENEFITS OF APPROPRIATIONS.

Responsibility for the administration of these funds in any State is discharged through two cooperating agencies: The Federal Board for Vocational Education, representing the National Government, and the State board for vocational education, created or designated by the State legislature. The terms of the agreement between the two representative agencies are embodied in a State plan.

The Federal Board for Vocational Education consists of seven members—the Secretary of Agriculture, the Secretary of Commerce, the Secretary of Labor, and the United States Commissioner of Education, ex officio, and three citizens of the United States appointed by the President, one of whom shall be a representative of the manufacturing and commercial interests, one a representative of the agricultural interests, and one a representative of labor.

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<sup>1</sup> Sidney Webb: *Grants in Aid*, pp. 9-26. Longmans Green.

The State board consists of not less than three members, and has all necessary power to cooperate with the Federal Board in administration of the provisions of the act.

The State plan sets forth the details of administration of the act within the State, the types of schools or classes to be subsidized, with a detailed description of each as to aim, character, and content of courses of study, methods of instruction, qualifications of teachers, and provisions for training teachers.<sup>2</sup> The Federal Board expects that State plans will be prepared with reference to State and local needs, and will be subject to revision whenever changes may be necessary or expedient for purposeful experiment. For this reason the State must make its own application of certain provisions and standards found in the Federal act. These provisions guarantee the autonomy of the State in the management of its own educational program. When State plans are approved by the Federal Board, they become working agreements in terms of which Federal reimbursements to States are made. Local public boards in turn make proposals of plans and applications for aid to State boards, direct and supervise local instruction, and report on existing classes to State boards.

### III. FUNDS AVAILABLE FOR DISTRIBUTION.<sup>3</sup>

The Federal annual appropriations for support of State programs of vocational education are allotted from three distinct funds. For agricultural education the fund is allotted to States on the basis of their rural populations; for trade, industrial, and home economics education, on the basis of the urban populations; and for teacher training, on the basis of total populations.

Within the States, severally, the funds are to be used by State boards in accordance with the following conditions:

(1) Section 11 of the act provides that one-third of the appropriation for trade and industrial education must, if expended, be applied to part-time schools or classes for workers over 14 years of age who have entered employment.

(2) It is further provided in sections 3 and 11 that a portion of the trade, home economics, and industrial fund, not exceeding 20 per cent, may be expended for salaries of teachers of home economics.

(3) Legal requirements imposed by the act stipulate that for each dollar of Federal money expended in developing the program for vocational education, according to the terms of the act, the State or local community, or both, shall expend an equal amount (sec. 11).

<sup>2</sup> Outline for Plans of States, p. 107 Trade and Industrial Education—Organization and Administration. Bulletin No. 17, Trade and Industrial Series, No. 1.

<sup>3</sup> For amount of these funds annually available see Statement of Policies, Table 1, p. 62. Federal Board Bulletin No. 1.

(4) Not more than 60 per cent nor less than 20 per cent of the appropriation for this training of teachers for any year shall be expended for the preparation of teachers and the maintenance of teacher-training courses in any one line of vocational work (sec. 12).

(5) The State boards have been authorized by a ruling of the Federal board to use teacher-training funds for the maintenance of teacher training and supervision on condition that they set up an approved plan of supervision and qualifications of supervisors in accordance with which such supervisors shall be employed, and that not more than 25 per cent of the maximum of the teacher-training fund in any one line be used for maintenance of supervision in that work. This is with the understanding that a large part of supervisory work is a training of teachers in service or itinerant teacher training. It should therefore be shown in the plan for supervision that such teacher-training work is included as a part of the State supervision scheme, and that the persons engaged in this work shall meet the qualifications necessary for this phase of supervision. (Vocational Summary, Vol. I, No. 4, p. 12.)

#### IV. GENERAL PROVISIONS OF THE VOCATIONAL EDUCATION ACT.

It may be well to emphasize here that the Federal funds are appropriated for the specific purpose of providing vocational education for persons who have already chosen or have entered upon a particular employment in order to prepare them for more efficient service in the occupations of agriculture, home economics, and trade and industry. It is assumed, moreover, that the States are already making ample provision for the general education of their youth, and that the local school and community accepts the obligation to set up adequate means to help the pupil and the parent determine wisely upon the specific vocational selection. The Federal funds, therefore, are reserved to assist in providing a program for certain forms of vocational education not adequately provided for at present in our system of public education. It is further assumed that the public schools are controlled or supervised by the State authorities and that the local community is financially obligated according to the terms of the State plan, and is charged with the responsibility of hiring the teachers, recruiting the pupils, conducting the scheduled sessions of the school, and providing suitable equipment, supplies, and other forms of maintenance. The general provisions, which are common to the three forms of vocational education, are an integral part of every State plan and may be briefly summarized as follows:

1. All schools or classes receiving Federal aid must be under public supervision and control.

2. That the controlling purpose of this education shall be to fit for useful employment.

3. That the instruction shall be of less than college grade.

4. That it shall be designed to meet the needs of persons over 14 years of age who are preparing for or have entered upon a trade or industrial pursuit.

5. That every dollar of Federal funds must be matched by a dollar of State or local funds, or both.

6. That Federal money is to be expended only for reimbursement for (a) salaries of teachers qualified according to the provisions of the State plan, and for (b) expenditures incurred in the maintenance of the training of teachers of vocational subjects.

#### V. SPECIAL PROVISIONS FOR TRADE AND INDUSTRIAL EDUCATION.

There are certain statutory provisions in accordance with which schools and classes in trade and industrial education must be organized in order to receive Federal aid.<sup>4</sup> These provisions define certain conditions and absolute standards to be incorporated in the State plan; they leave other conditions contingent upon the State or local situation to the discretion and interpretation of the State, but require them to be included in the working agreements submitted to the Federal Board for Vocational Education for approval.

##### ABSOLUTE STANDARDS INDICATED IN THE ACT.

The three types of schools or classes are defined in section II of the act in terms of the groups of pupils to be reached and standards to be observed. Girls yet in attendance at school may receive instruction preparatory to entrance upon industrial employment in day vocational or trade schools. At least half the time of such instruction must be devoted to practical work on a useful and productive basis and must extend over 9 months per year and not less than 30 hours per week. The State board, with the approval of the Federal Board, may modify conditions as to length of course and hours of instruction per week in cities of less than 25,000 population. Workers over 14 years of age (no upper age limit), who have entered upon employment may be given classroom instruction of a grade designed for persons from 14 to 18 years of age for not less than 144 hours per year in any subject which will enlarge their civic or vocational intelligence. This instruction must be given during the regular hours of the working day in part-time classes. Workers over 16 years of age may receive instruction supplemental to their daily employment in evening classes.

<sup>4</sup> Bulletin No. 17: Trade and Industrial Series, No. 1. Trade and Industrial Education—Organization and Administration, pp. 23, 26.

## DISCRETIONARY STANDARDS INDICATED IN THE STATE PLAN.

In view of the varying industrial development in the several States, and the diverse types of trades or occupations in which girls and women are employed and for which instruction may be given, certain discretionary standards or conditions are left for the State to formulate and interpret according to the fundamental purpose of the act, which is to fit persons for useful employment. These stipulations relate to the plant and equipment; minimum annual maintenance; courses of study; methods of instruction; and qualifications of teachers; and must be indicated in the State plan.

## BUILDING AND EQUIPMENT.

Briefly stated, the plant and equipment must be adequate for instructional purposes, whether it be shop or classroom, whether it be in a separate schoolhouse, a factory, a store, a public building, or other location determined by the advantages to or convenience of the students enrolled.

The equipment necessary for schools or classes will depend upon the trades to be taught, the types of schools or classes, the groups that are to receive instruction, the character of the course of study which has been determined upon, and the methods of instruction adopted.

Since the administrative policies of the Federal Board recommend that the State board shall require communities to state the aims of each all-day, part-time, and evening school or class, it will be possible for the State board to determine, for individual schools, whether the equipment which is proposed is sufficient in quantity, variety, and model to insure adequate instruction in the standard practices of the trade or occupation to be taught.

The State laws relative to accident prevention must be observed. Rules, regulations, and cautions should be posted; guards and other protective devices should be installed in compliance with provisions for factory inspection.

Books, apparatus, charts, blackboards, and desks constitute other items of general equipment to be considered in terms of the usual standard observed by the State.

No portion of moneys appropriated under this act for the benefit of States may be applied to the erection or repair of buildings, the purchase of land, or other items prohibited under section 17 of the act.

## MINIMUM FOR MAINTENANCE.

The minimum for maintenance of day, part-time, or evening schools is determined by variable factors which must be considered

by each State in attempting to fix the amounts necessary for carrying out its program and fulfilling the aims of each type of school. The size of the community, the difficulty of obtaining efficient teachers, particularly of vocational subjects, who have had adequate experience in the wage-earning phases of their occupations will determine the cost of instruction. The salaries of shop and related subject teachers, for which reimbursement is made will be determined largely by the basic salaries of teachers in elementary or secondary schools in each locality. State and local boards should realize that through the use of Federal funds, the burden of the high salary costs necessary to secure efficient teachers may be in part lifted from the local community. The upkeep, replacement, and care of machinery and tools, together with the cost of selecting, buying, and accounting for supplies, are items of maintenance for which no reimbursement from Federal funds may be received.

Even though the shop is organized on a productive basis, and a salable product made, yet the educative value and aim should be paramount.<sup>5</sup> It should be evident, therefore, that although the product, whether made for the school or other public institution, or for charitable organizations, or for sale, may diminish the gross maintenance cost, yet it can not make a school self-supporting. These facts must be considered in formulating State plans.

#### CHARACTER AND CONTENT OF COURSE OF STUDY.

No course of study is imposed on any State or local community. On the contrary, the spirit and letter of the law consistently encourage these agencies to make surveys of local industries and analyses of occupations, in order to determine the need for classes and the type of instruction to be offered. State plans should be prepared in the light of a continuous survey, and should set forth the general conditions in accordance with which courses are to be organized.

In day schools for girls over 14 years of age experience has determined the following apportionment of time as the prevailing practice: (a) At least one-half the time to be devoted to practical work on a useful or productive basis, (b) from 30 to 35 per cent to related studies, and (c) the remainder (15 to 20 per cent) to nonvocational subjects.

With older groups of women confronted with the immediate problem of wage earning it is desirable to increase the proportion of vocational work and decrease the time devoted to nonvocational subjects. The Federal Board must require adequate provision for instruc-

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<sup>5</sup> Principal differentiating characteristics (1) of the commercial shop in business, (2) of the school shop conducted on a useful or productive basis. Federal Board Bulletin 17, Trade and Industrial Series, No. 1. Trade and Industrial Education—Organization and Administration, p. 52.

tion in related subjects to accomplish the purpose of the act, which is not only to improve girls as workers but also to give them an intelligent understanding of the technical and theoretical aspects of their work.

The character and content of instruction in part-time classes admits of instruction in any subject which will increase the civic or vocational intelligence of girls over 14 years of age who have entered employment. This is comparatively a new field, and is worthy of study and experimentation. Ultimately the needs of the individual must be met, but organization and administration will necessitate the handling of these workers in groups. Age, grade, attainment, occupation in which engaged, dominant interests, instruction desired, and occupation chosen are a few of the factors that may determine both the grouping and the educational program. The latitude of the law is intended to insure the greatest possible flexibility in character of instruction and service rendered.

The time schedules admit of a great variety of arrangements which are fully discussed in Bulletin No. 17, Trade and Industrial Series, No. 1. Trade and Industrial Education—Organization and Administration, page 75. That the minimum number of hours is only 144 is itself indicative of the necessity for making the character and content of each day's instruction purposeful and complete, and arranged for definite progression in a series, whether it be for general improvement, special vocational training for entrance to an occupation, or for promotion. A chart of differences and similarities in the three types of part-time schools will be found on page 70 of the above-mentioned bulletin. Part-time instruction is the great field of opportunity for employers, school authorities, and workers themselves, to initiate educational experiments which will make vocational education a dynamic social force for national, civic, social, and industrial improvement.

Since the instruction in evening schools must be related to the day employment the content of courses, whether shop or related subjects, must supplement the daily occupation, and must be determined by the actual needs of the group. The courses must be designed for people with a common background of concrete experience, must be short, intensive, and progressive in arrangement.<sup>6</sup>

#### METHODS OF INSTRUCTION.

Effective methods of instruction in day vocational schools must prepare for placement in an occupation at the completion of the course. The length of the course measured back from the age of effective entrance to an employment—whether set by law or custom—

<sup>6</sup> Evening Industrial Schools—Methods of Instruction, p. 29. Federal Board Bulletin No. 18, Trade and Industrial Series, No. 2.

should determine the minimum age for enrollment of pupils, which, in turn, modifies the methods of instruction.

A few general principles characteristic of approved methods of instruction are cited for consideration in State plans. A sequence of concrete experiences should be arranged in progressive instructional order.

Instruction should proceed from the concrete to the abstract. The task, problem, or project should be individual, supplemented with some experience in group planning and execution. Exercise and practice work is sometimes necessary. At least one-half the time should be devoted to practical work under conditions approximating those of the trade or occupations, and the economic value of the product should be comparable with that produced in the shop or factory. A knowledge of commercial shops and probationary experience should be required to supplement the trade or occupational instruction.

The method of teaching in part-time schools will differ according to the wide variety and types of the individuals enrolled. It will also differ according to the aims of the classes, basis of grouping, hours of instruction, and other variable factors.

General continuation schools should provide a "receiving station," where general improvement classes may help determine the most advantageous assignment of the individual to her group. Departure from conventional methods of teaching is necessary to appeal to the interest and initiative of the girls, and often necessitates personal counsel and assistance. Each lesson should be a unit; each hour yield the largest possible return; and the instruction function toward some worthy end. This is a fertile field for educational experiment.

The methods of teaching trade or occupational subjects must necessarily be modified by the shortness of time. This will correspondingly develop the ability of the worker to plan for herself with a minimum of direction and demonstration.

The methods of instruction in evening classes will vary according to the purpose and aim, whether it be for supplementary skill in the day's task, or for the development of the fundamental principles involved. The short unit course is arranged to yield a maximum of return in a minimum of time. Devices for making this effective are discussed in Bulletin No. 18, *Evening Industrial Schools*, pages 29-32.

#### QUALIFICATIONS OF TEACHERS IN ALL-DAY, PART-TIME, AND EVENING SCHOOLS.

Two types of teachers in day trade schools are recognized by the Federal act. Though qualifications may differ according to locality and trade, adequate practical experience is necessary for both shop and related subjects teachers. In trade schools for girls the best results have been achieved in shop work by having the teaching staff

composed partly of trained teachers with trade contact for the elementary division, and for the more advanced divisions the expert trade worker trained in the teaching processes.

While related subjects must be strictly vocational and inherent in the trades, they are of such a nature that they may be taught in an ordinary classroom, laboratory, or studio. Technical preparation with commercial experience is almost essential for successful instruction in subjects requiring a knowledge of drawing, design, and art.

Since the local communities are required to bear the salary expense of the nonvocational teacher, the board does not require the State to specify standards for such teachers. It would approve standards, however, only in case the minimum requirements specified for State licenses were observed. Successful teachers of grade or high school experience should be secured whenever possible.

In State plans for part-time schools, also, two general types of teachers are recognized, and their qualifications defined: Teachers of subjects to enlarge the civic intelligence, and teachers of subjects to enlarge the vocational intelligence.

Teachers of subjects designed to enlarge the civic intelligence should be chosen because of interest, insight, and peculiar personal fitness for dealing with this group of working girls to whom a new educational service is extended. Professional training equivalent to that required in other regular elementary schools is required. In all probability these socially minded teachers can be recruited from the regular staff of the schools. As the upper age limit of compulsory part-time attendance and the number of hours of instruction differ in the States in which these programs are being inaugurated, there will probably be two types of vocational shop teachers to be recognized in State plans. The teacher who will deal with the younger group in "trade-finding" activities must be chosen because of her personality, interest, occupational experience, and understanding of the wage-earning girl. While a high school education is desirable, natural qualifications, leadership, versatility, common sense, and judgment, which come from varied experiences in life, may be accepted in lieu of schooling. The teacher who deals with the trade work must have the same qualifications as a teacher in the day trade school.

In all probability the teacher who qualifies for the day trade work will be eligible for evening school instruction both in shop and related subjects. It will be necessary, however, at times to bring in teachers who possess a very thorough knowledge of a particular thing to be presented to a particular group. The State plans should so clearly indicate the different possibilities that the local community may have a basis of judgment for selection. State plans should provide also

that before a teacher enters upon evening school employment the approval of the State board be secured, and a full statement of the qualifications of the prospective teacher be submitted with the application for approval. The greatest latitude should be given local communities in recruiting desirable teachers who have had much practical experience or technical training.

#### TEACHER TRAINING.

When any State undertakes the responsibility for a program of trade and industrial education it likewise assumes the duty of training teachers for the schools or classes established and of supervising their work.

The State plan should set forth the provisions to be followed in the execution of the scheme of training. The details to be considered in training teachers for shop subjects, related subjects, and general continuation school work are briefly indicated below.

The shop teacher in the day school usually relinquishes the commercial pursuit of her trade or occupation and regards teaching as her steady employment. In part-time schools this may or may not be necessary; in evening schools the instructor regards the teaching as incidental to the day's employment. It is desirable that her training for teaching follow her trade experiences or be given at the same time she is employed at her work, and continue periodically as a means of improvement in service.

Few successful workers can be induced to leave their occupations and devote their entire time to this preparation, hence the training of teachers for shop subjects, for both day and evening classes, becomes an evening school problem to be carried out in centers where desirable candidates from the trades or occupations may be recruited.

It is assumed that the women in this group have at least a common-school education; have already mastered the trade content; have acquired trade skill; and have sufficient maturity to master the fundamental principles of teaching in a limited number of hours of professional training.

The State may specify the maximum or minimum amount of time to carry out its program. At present this is variously approximated at from 50 to 240 hours. A program may be arranged in a two-year course of evening instruction, in two-hour periods twice a week, or for extension or summer courses. These courses may be given at centers of training established by State boards or by the institutions to which they have delegated the responsibility. The course may include a flexible arrangement of material similar to the following, which has been set up as a course of minimum essentials, to be supplemented by observation and practice teaching:

1. An analysis and classification of what is to be taught—The trade or occupation.
2. The teaching process—Methods.
3. Lesson planning and teaching.
4. Principles of laying out courses of study and program making.
5. Class organization and management.
6. Factory training.
7. General principles of vocational education.
8. Kinds of vocational schools and classes.
9. General information—legal regulations. (Occupational standards set by State, factory inspection, health, safety, accidents, etc.)

It is desirable that the shop teacher return periodically to the trade to keep abreast of the latest practices. Only as many teachers should be trained as may be reasonably sure of placement; the number should be regulated by a careful selection of candidates chosen with the assistance of a committee representing the trade which the applicant desires to teach.

Graduation requirements should be the same as the State standard for vocational certification. Provisional certificates may be issued pending completion of the course.

It is generally recognized in State plans that a wide technical knowledge is desirable for the teachers of related subjects, and accordingly States have provided a program of professional training to supplement the technical courses in institutions delegated to train teachers. The proportion of subjects is distributed about as follows: Fifty per cent to technical and related subjects, 35 per cent to academic, and 15 per cent to professional subjects. A limited choice is permitted from the following courses:

1. Theory, principles, and problems of vocational education.
2. History of industrial education.
3. Methods of teaching.
4. Organization and administration of vocational education. (Federal Board Circular Letter 393.)
5. Surveys for purposes of industrial education.
6. Vocational psychology and counseling.

Since a knowledge of related subjects is inherent in the trades, it is highly desirable that the teacher should have actual experience at wage earning under industrial conditions.

States which have passed part-time compulsory attendance laws (see map, p. 4) are confronted with the problem of training teachers for the work prior to the inauguration of the program. Most States are selecting experienced teachers from the regular teaching staff because of their personal aptitude and social mindedness. Since the success of this educational experiment depends largely on the teacher, the number of students subject to the laws will necessitate a large

body of teachers who must be given some idea of the purposes, organization and administration, methods of instruction, and types of service which may be rendered to the group of working girls. The widest latitude is permitted the general character of the work to be undertaken, and the time devoted to it should be specified in the State plan. The person who is charged with selection of candidates to receive training and responsibility for determining the content of the courses must have not only a practical professional education but also an intimate knowledge of an industrial occupation and industrial conditions.

#### SUPERVISION.

Realizing the need for delegating the authority and fixing the responsibility for supervision of trade and industrial education, a ruling of the board (July 11, 1918)<sup>7</sup> recognized the advantages of supervision as a means of improvement of teachers in service. Accordingly, 15 per cent of the total teacher-training funds for any State may be used for supervision of trade and industrial instruction, provided the State sets up the qualifications of its supervisors and its plan for supervision.

The growth of this work will require the State boards for vocational education to encourage the investigation of the needs of girls and women workers in more than an incidental and casual manner. The lack of information about industrial education on the part of the public and the apathy or indifference toward industrial employment of women indicate that much preliminary work must be done to educate the public, establish an understanding with school administrators, and receive the cooperation of employers and employees.

When a woman has been appointed to do this work for the State board her duties have included the following activities:

Cooperating with local communities in making preliminary surveys and investigations for determining the need for inaugurating a program for trade and industrial education.

Outlining courses of study and organizing teaching material; assisting teachers in improving work by personal conferences and sectional meetings.

Preparing suitable publicity material and bulletins explaining the purpose and scope of the work as a means of educating the public.

Giving personal supervision to all schools maintaining trade and industrial courses.

Inspecting schools or classes applying for Federal and State aid according to the State plans, and reporting to the State board for approval or disapproval.

<sup>7</sup> Use of teacher-training funds. *The Vocational Summary*, Vol. I, No. 4, p. 12.

Supervising teacher-training courses.

Preparing reports for the State board.

Engaging in such other activities relative to trade or industrial education as the State board may direct.

It is possible for a State in which the industrial development is limited to employ one person for teacher-training and supervision. The qualifications desirable for this work are the same as for men holding the same position; two years of collegiate training, two years technical training, and professional training with teaching experience and sufficient contact to be familiar with industrial processes and conditions affecting industrial education.

#### SUGGESTED STEPS IN THE DEVELOPMENT OF A PROGRAM OF VOCATIONAL EDUCATION.

In the light of the foregoing analysis of the provisions of the Federal vocational act a brief summary suggestive of the procedure is submitted by which a local community may determine the kind of instruction needed and organize its work to secure the best results possible. It must be reiterated that the act was intended to prepare persons for gainful employment, and that all its provisions apply equally to a program for girls or boys and men or women, without discrimination.

There must be positive support of the program for vocational education by the local school superintendent and the assistant to whom he has delegated the work. It is desirable to secure the assistance and approval of such local organizations as the chamber of commerce (industrial division), labor organizations, educational committees of the Federation of Women's Clubs, Young Women's Christian Association, employment bureaus, manufacturers' associations, and the like. An advisory council composed of representatives of these organizations, chosen by the organizations themselves, employers, employees, and business women actively interested in education, should represent the various interests concerned in the program.

The industrial survey of the community, together with its educational opportunities, should be permanent and continuous, and the facts and figures should be made available through all possible channels of publicity. The local department of vocational education should assist in the analysis of dominant occupations or industries and should summon to its assistance such advice and help as can be secured from the State staff on problems of industrial education, whether it be concerning classes under public control or training conducted as a private enterprise in an industrial plant. Suggestions on making an industrial survey may be found in *The Vocational Summary*, Volume II, No. 8, page 139; No. 9, page 159; and in *Federal Board C. L.* 163.

Vocational classes do not recruit themselves. Aggressive publicity in the press, pulpit, street cars, and shop windows is a legitimate means of advertising. Personal work among groups of people who may be enrolled sometimes secures satisfactory results, particularly for night-school classes.

The choice of a desirable teacher and the selection and arrangement of the subject matter which is to be taught may call for the assistance of the supervisor and teacher-training department.

Records should indicate enrollment, attendance, and completion of course. Each State board provides blank forms for requests for reimbursement and assures itself, through its State supervisor, that the work has been done in accordance with its agreement with the local community.

Federal funds may be used by the State board only as reimbursement for salaries of teachers under conditions set forth in the State plans.

It must be recognized by all who are familiar with the field of vocational education that there must be an immense amount of educational propaganda before the organization of classes for girls and women can be effected on an adequate scale. No scheme of education can be successful without the whole-hearted support of the school administrators and the general public. Securing this support is the first step in the development of vocational education for women.

## VI. TYPES OF VOCATIONAL SCHOOLS AND TRAINING AGENCIES.

Any program for vocational education for girls and women presupposes an analysis of the needs of the group of present and prospective wage earners. It is evident that these groups in different communities vary in age, schooling experience, and opportunities for employment. It is consequently evident that attention will be directed toward different types of vocational schools or classes according to the paramount interests of the communities and the dominant needs as influenced by the age and development of its workers. The sequence of the historical development of the different types of schools or classes does not necessarily indicate the order of progression of an effective program in any community. It simply indicates that public attention was centered upon the needs of a special group and a program evolved to meet the emergency. The fact that various commendable enterprises are not subject to Federal reimbursement does not signify disapproval of them or underestimation of their service. The Federal Board as a public agency created to stimulate and promote vocational education is interested in all public and private agencies for vocational education as well as in schemes for training workers in plants.

The use of Federal funds is necessarily limited by the terms of the act and the administrative policies defined under the act.

The history of industrial education for wage-earning girls and women in the United States dates back less than a quarter of a century. The efforts of the women who have pursued the first educational experiments in industrial centers were directed toward preemployment training in the day school, which would lift the young wage earner over the unprogressive stages of work and secure for her advantageous entrance into better types of employment. Though generally initiated by private philanthropy, these enterprises after having passed the experimental stage have become a part of the regular public-school system in the communities in which established.

It is a fact that the evening-school pupils join a class with a practical end in view; that employers and workers themselves need information relative to the values of supplementary instruction with definite vocational bearing; that much study and careful experiment is necessary to work out an educational program, which will be supplementary in practice or in principle to the day's employment.

The evening school for industrial workers in many localities at present suffers from a confusion of purposes and a popular impression that evening classes for women workers should partake of the nature of social center activities, while the fundamental purpose, i. e., increasing the efficiency of the worker, demanding instruction with direct and immediate values applied at the point of greatest need, is overlooked.

By far the largest single group to be reached by Federal aid for vocational education is the young wage earner over 14 years of age. To encourage service to this important group the act provides that one-third of the industrial fund allotted to any State, if spent at all, must be spent in providing part-time schooling for this group. The rulings of the board admit of a flexible program recognizing that the girl who is under the authority of the public school, and is open to its influences of encouragement and direction as well as of instruction, is insured educational progress. Undoubtedly this is a perfectly obvious point for beginning a program in the 19 States which have already passed compulsory part-time school attendance laws. The success of this enterprise in States which have pushed the work, even on a voluntary basis, indicates popular recognition of the national importance of this movement.

Some consideration of the relative advantages and disadvantages of the foregoing types, together with illustrations, may be suggestive to different communities of possible fields of development.

## EVENING SCHOOLS AND CLASSES.

Evening-school classes, as they have developed for working women and girls, serve four important functions, the first three of which are a part of a general education program:

1. To provide opportunity for social and recreational activities such as games, folk dancing, debating clubs, dramatics, supper clubs, sewing clubs, and the like.

2. To provide training in various activities of home making for personal or family use.

3. To provide a general educational program which will enable the worker to overcome the deficiencies of early education and complete a definite goal such as the elementary or high school course.

4. To provide vocational education for wage earners which prepares for entrance to occupation, or for progression or advancement in an occupation.

The Federal vocational education act limits the use of Federal funds in evening schools to trade-extension classes for advancement or progression in an occupation.

The first of these enumerated functions is necessary and desirable—a public responsibility for those numerous groups of industrial workers who seek diversion from continuous employment at monotonous routine tasks. The second enables the woman to obtain instruction desirable for personal or home use. The third enables the girl or woman to mend the limitations of separation from educational opportunities and influences resulting from an early entrance upon a wage-earning pursuit. The fourth or vocational function serves the largest group by commercial courses which, after a quarter of a century of pioneering by private schools, have come to be almost the dominant type of evening-school instruction for girls, because it provides a direct approach to a gainful occupation. Technical courses for women have not yet developed extensively.

The tradition that evening technical courses are not open to women, or that specially diluted technical courses for them and excluding men are necessary, must be replaced by new ideals and standards based upon the successes of carefully selected women students for existing technical courses and for new courses devised to meet the demands of occupations and the needs of workers. This will require painstaking care in selection of pupils, good organization, and adequate instruction.

Sufficient initial enterprises have been inaugurated to indicate the advantages of trade-extension classes for workers and point to a way to further development. It is for the purpose of expanding the opportunities for this group of workers over 16 years of age that Federal funds are made available in evening classes only for that type

of instruction in trade and technical subjects which relates to the day employment.

In this evening school group the pupil is a wage worker, mature and wanting definite help. What knowledge she has is the result of concrete experiences. She does not want nor will she utilize abstract information.

A study of working girls in evening schools<sup>8</sup> in New York City in 1910-11 reveals facts having significant bearings on industrial education. Nearly 50,000 women, chiefly wage earners, were enrolled. Through no other public agency would it be possible to reach as large a group of wage earners. The total register of women included in the investigation was 39,242. Personal records, secured from 13,141, revealed the following facts concerning nationality, age, motives, present occupations and previous schooling: Sixty-eight per cent were born in the United States; 32 per cent were between 16 and 18 years of age; only 23 per cent had passed their 21st birthday. That they had joined with a practical end in view was evident from the three rival aims revealed in "motives for attending," namely: "In order to change to better work"; "to learn for home use"; and "to obtain a general education." A comparatively small group desired "help in daily occupation." To quote one conclusion of this study:

Perhaps the most significant of all problems encountered by teachers in evening schools is the restless and undirected seeking after some kind of training that will enable the girl wage earner to find a better job than the one she now has.

In general, girls whose schooling was cut short entered correspondingly low-paid occupations. Domestic employees had the least schooling; factory workers came from the higher grades in the elementary school, and commercial workers were largely represented in high-school training.

The number of industrially employed girls exceeded slightly the number commercially employed, but represented a wide diversity of jobs for which "employer" and worker alike see little scope for supplementary training with definite vocational bearing. This does not mean that industrial education for women must be abandoned. It does mean educational propaganda and careful experiment. The greater the emphasis placed on vocational training the more it necessitates seeking out groups of workers with a similarity of experience, discovering their needs and desires, organizing classes with a definite aim, and securing a teacher who can give expert instruction. The advancement of the worker is dependent upon her practical knowledge, not upon her academic training. The short-unit course, inten-

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<sup>8</sup> Working Girls in Evening Schools. Mary Van Kleeck. Russell Sage Foundation, 1914.

sive in character, arranged in progressive sequence, economizes time and enables the worker to enter at her point of greatest need. These needs may be discovered in preliminary registration. Instruction may be offered in fundamental principles or in technique of the trade; hence aim, day occupation, age, experience, and ability are factors which may determine a homogeneous group.

Groups following the custom-sewing trades may comprise those who work at home for private customers, the house-to-house seamstress, those who work in large or small custom shops, those who work in wholesale dressmaking factories as operatives, apprentice girls eager to learn, helpers who are absorbed in the repetition of simple tasks unable to get any training for advancement within the shop, waist finishers, or other specialists. Courses most desired by these workers are draping, drafting, cutting and fitting, dress designing, and decorative embroidery.

It is essential to define each course in terms of its aim. A course in pattern drafting plans to teach the principles of line and measurement as a foundation for designing. A course in waist draping aims to develop facility and accuracy in modeling a waist from a design shown in a sketch. The following outline is submitted to show that the unit course places emphasis not on practice, which the girls have already had in the shop, but on fundamental principles which are difficult to obtain in the workroom:

#### COURSE IN WAIST DRAPING.

(3 units, 30 lessons, required for a certificate.)

1. Study of fashion plates and discussion of lines in waists. Demonstration and criticism of several models.
2. Preparing of lining, padding of lining on figure.
- 3-4. Practice draping with tissue paper, several different models.
- 5-6. Practice draping (one model) with cambric or cheesecloth in two different colors.
- 7-8. Fitting net on yoke and collar.
- 9-19. Draping waist in cloth.
- 20-30. Draping waist in silk, chiffon, and lace.

Similar analyses of groups of workers and courses of instruction could be made of millinery; of power-machine operating, with its diversity of specialized machines and products, including curtains, fur, millinery, straw, neckwear, whitewear, corsets, machine embroidery, and men's and women's clothing, and of textiles, calculations, design, and other subjects, which may be related to these specific occupations.

Courses related to the preparation and serving of foods include lunchroom or counter service, pantry service, table service, tea-room or cafeteria management and marketing, for groups already in the occupation. Invalid cookery and dietetics may be regarded as trade-

extension classes for nurses. The following course was planned for part-time and evening courses for hotels and restaurant service.

COURSE FOR TABLE OR COUNTER SERVICE.<sup>9</sup>

This course of study for table or counter service has been arranged with the hope that it may be suitable for use in any kind of table or counter service. Those who are familiar with hotel and restaurant service realize how widely different are the organizations and systems in individual establishments. In consequence, it will be necessary to adapt this outline to the needs of each separate restaurant. Some points will necessarily call for amplification, others will need to be omitted entirely.

OUTLINE OF INSTRUCTION.

I. Organization of restaurant (2 hours):

A. Personnel—

1 hour—

1. Kitchen—

a. Duties of chef, cooks, carvers, servers, pantrymen or women, and whatever employees there may be.

2. Storeroom—

a. Duties of steward, storeroom attendants, etc.

3. Dining room—

a. Duties of head waiter or waitress, captains, waitress, bus boys or girls, checkers, cashier, and other employees.

B. Equipment and supplies—

1. hour—

1. Location of linen, silver, glassware, china, condiments, sauces, etc. (on the job).

II. Personal address (3 hours):

A. Appearance—

1 hour—

1. Uniform—

a. Practicality.

b. Value to the girl, to the hotel, effect upon the guest.

c. Headwear.

d. Shoes.

e. Jewelry.

1 hour—

2. Carriage.

3. Care of hair.

4. Care of skin and nails.

5. Care of teeth.

B. Approach to guest—

1 hour—

1. Courtesy.

<sup>9</sup> State Board for Vocational Education, Austin, Tex. Department of Industrial Education.

## III. Service (6 or 7 hours) :

1 hour—

## A. Preliminaries—

1. Seating of guests.
2. Menu card.

## B. Taking the order—

1. Method, written or oral—
  - a. Devices for aiding memory.
2. Guests' preference in serving of coffee, salad, etc.

1 hour—

## C. Setting the table—

1. Changing the cloth.
2. Placing of napkin, silver, glasses, etc.
3. Uses of utensils (silver, china, etc.).
4. For special occasions.

1 hour to 3 hours—

## D. Serving the order—

1. Use and preparation of tray.
2. Arrangement of salad, coffee, side dishes, etc.
3. Method of serving.
  - a. Demonstration meals.

1 hour—

## E. Removal of dishes—

1. Method.
2. Disposal of touched and untouched foods.
3. Cleaning table or counter.

1 hour—

## F. Efficiency—

1. Speed.
2. Quality.
3. Headwork.

## IV. Miscellaneous :

1 hour—

## A. Meanings of menu terms, foreign phrases, etc.

## B. Tips—

1. Attitude toward.
2. Amounts generally given.
3. Tips to fellow workers.

## C. Complaints of guests.

## D. Special courtesy to helpless guests.

## V. Washing dishes (with demonstration), 1 hour :

## A. Glassware.

## B. Silver.

## C. China.

## VI. Service for special dinners and banquets (with demonstration), 1 hour.

## VII. Carving and pantry service (with demonstration), 1 hour :

## A. Dining-room carving.

## B. Serving of meats.

## C. Pantry service.

## VIII. Trade ethics, 1 hour—

## A. Relation to fellow workers.

## B. Relation to guests.

## C. Relation to management.

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NOTE.—Extra lessons to be inserted where needed as a result of observation and coordination work of teachers in individual establishments where classes are being held.

Large numbers of women are employed in the light metal trades, such as the manufacture of automobile parts, locks, computing machines, and other office appliances. For women engaged at the bench, on machines, inspecting, assembling and testing, short unit courses in evening classes may be offered in the use of precision measuring instruments, machine-shop practice, blue-print reading, and drafting. One industrial community, where the largest group of employed women are engaged in metal trades, developed a course in drafting for women employees in the local plants from specimen plates submitted by the various firms as an index of the type of work desirable.

The woodworking trades employ women in increasing numbers in furniture making, fine finishing of victrolas, pianos, and other musical instruments. Consequently these workers would be eligible to trade extension classes offering instruction in rod making and reading, gluing and assembling of parts, grains of wood, the use of fillers, stains, varnishes, and finishing, arranged in a sequence of units for evening class instruction.

Definite thought and investigation directed in this line would develop opportunities in connection with other employments, such as monotype operating and proof reading for women in the printing trades, optics for instrument makers, armature winding for electrical workers, and other types of instruction yet to be developed.

The questions involved in industrial education for women will not be answered until we take account of all the divers trades in which women are employed. In 1913 there were drawn from the record cards of women attending public evening schools in New York City, 289 subdivisions of the main occupational groups, and further subdivision was found necessary to count the number of distinct tasks which represented the day's work of the wage-earning women.<sup>10</sup>

In some positions, such as forewomen and instructors, there is need for imagination, organizing capacity, general intelligence, and a knowledge of human factors of employment as well as a knowledge of materials, tools, and processes. Evening classes for training forewomen and supervisors are recognized by the Federal Board for Vocational Education as trade-extension courses, while the preparation of women for instructors in schools or plants is regarded a legitimate teacher-training function.

Diversity of experiment is desirable. Those responsible for the development of this work in any community should endeavor—

- (1) To know the local industrial occupations in relation to their educational possibilities.

- (2) To find out what occupations are represented in the evening school enrollment.

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<sup>10</sup> Working Girls in Evening Schools, p. 138. Mary Van Kleeck. Russell Sage Foundation.

(3) To bring workers in similar employment together to discover facts concerning their work.

(4) To study their educational deficiencies and needs as recognized by themselves and their employers.

(5) To determine whether supplementary training can be given in technique or in fundamental principles.

With the knowledge gained from the preceding study the following procedure is suggested.

(1) Define the aim of the course.

(2) Limit the registration to those already employed in the occupation to be taught.

(3) Provide adequate equipment.

(4) Secure a teacher who can give expert instruction.

(5) Enlist the support of an advisory committee selected from the trades taught.

Publicity campaigns<sup>11</sup> for recruiting students, registration deposits or returnable enrollment fees, records of attendance, follow-up, certification of units completed, cost accounting and expense are administration problems in evening schools.

Solution of the problem of industrial education requires pupils with definiteness of aim and similarity of purpose, and a teacher with knowledge of occupations, ability to analyze occupations and organize subject-matter suited to the needs of the group, and ability to devise new methods for new conditions.

While the aim and purpose of the pupils in the last analysis rest with the individuals that make up the group, the school is a responsible party in the attainment of aims to be reached only by carefully selected subject-matter, well-arranged courses and adequate instruction.

#### THE ALL-DAY VOCATIONAL SCHOOL OR DEPARTMENT.

The all-day school for young entrants into the trade serves to lift the girl over the unskilled processes which catch and hold the young workers and to enable her to enter industry at a higher initial wage. When once established in the occupation her advancement will depend upon her individual capacity to profit by the opportunities.

For the girl of limited school expectancy, who can forego wage earning for a longer or shorter period of time in order to prepare for work, the school is under obligation to control the necessary agencies whereby it can set the learner at work on productive projects appropriate to her chosen occupation and to her stage of development. For her the day vocational school secures the domination of an educational aim during this period of preparation.

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<sup>11</sup> The Application of Commercial Advertising Methods to University Extension, by Mary Burchard Davis. Bureau of Education, Bul. No. 51, 1919.

The place of the day school in the program of vocational education is defended on the following grounds:

It stands as an institution within the school organization affording public recognition of the educational needs of wage-earning girls. It may serve for an administrative center for the development of part-time and evening classes, coordinating all possible opportunities for educational service relating to employment. It may become a pioneer experimental institution by opening up new lines of employment, by cooperating with industry to secure upgrading of jobs, by analyzing the jobs, by setting up lines of progress, and by training to secure that progression.

The limitations of the day vocational school likewise are evident.

The number of girls prepared for entrance to wage earning is negligible in meeting the demands of labor in communities in which the school is established. The number of occupations taught within the school is likewise limited. The school must compete with the "paid while learning" jobs, which appeal to the girl who underestimates the opportunity for training and thinks in terms of immediate rather than deferred values. The expansion of service is dependent on the ability to establish full faith and credit with employers and with workers.

The organization of the day vocational school may admit of two types: (1) A separate school coordinate in rank with other secondary schools, with a director and staff of its own; (2) a separate department in a high school with a director, course of study, and staff of vocational teachers, teachers of related and academic subjects being responsible to the director of the regular school. Both types have advocates and opponents.

It is urged by educators who are striving to reorganize and readjust the school curriculum and make "industry a factor in teaching the child" that a separate school under separate supervision is the greatest evil now threatening the democracy of education.

The fundamental objections problematically stated are as follows:

1. The scheme divides and duplicates administrative machinery.
2. It tends to paralyze the movement for democracy in education now operating for the improvement of existing schools.
3. These new schools aim at increased efficiency in narrow limits.
4. The segregation will work disastrously for the true interests of pupils who attend vocational schools. To give pupils a knowledge of industry or any particular occupation in relation to science, art, and society in general would duplicate existing schools; hence this scheme is uneconomical, undemocratic, and unnecessary.

This controversy can not fail to make the vocational schools a most potent and corrective factor in the reorganization of secondary schools

of the country, in the revision of the curricula and methods of teaching, and in statement of aims.

The vocational classes organized as a department in a high school suffer from the fundamental unlikeness of the aims and purposes of general education to those of vocational education. Under such organization the chief hindrances to success may be summarized as follows:

1. It is difficult to maintain shop conditions with the distracting extra-curriculum activities and the interruptions which occur in the regular school work.

2. It is difficult to allow for the large degree of independence and the indefinite flexibility essential, and for correlation with the industry.

3. It is difficult to maintain the methods, hours, and atmosphere that approximate trade conditions.

4. It is difficult to identify the school with the processes, standards, and requirements of the occupation for which training is being given on the one hand and with the organization of the historic school on the other.

5. It is difficult to get academically minded teachers with a sympathetic viewpoint who will study the industrial experiences and projects of their pupils and use them as a basis of concrete approach to the specific training in related subjects.

6. It is difficult to secure a democratic and unified spirit in organization of the teaching force into a working body.

7. It is difficult to maintain the public recognition of the integrity of the department as a separate entity in the industrial world, since such departments tend to become academic in spirit and formalized into general industrial and manual arts courses. The vocational department in the high school is apt to be satisfied to use a vocational motive with a cultural aim.

8. With the exception of home economics, where the training for occupations related to the home is a necessary product of any vocational course, industrial training for wage earning will best be promoted by recognizing it as a new and distinct type or education super-added to the hitherto existing types.

9. The secondary school can not afford to allow to persist such confusion of purposes as hampers the public and students in distinguishing between those courses of instruction and training which are described as "liberal" and those others which are intended to lead toward vocational competency.

Vocational training can not be accomplished once and for all for any given student, but the worker must have the opportunity to return for short or long periods for systematic training with the

day school as a center for administration. This may be done by short unit courses adapted to the immediate needs of the worker and to the time at her disposal, or by dull-season classes for older girls with a distinctly professional attitude toward work, or by evening classes in trade extension for the mature workers.

There is an increasing tendency to extend technical training by placing the girl in employment at definite stages of progression and providing instruction during the dull season to alternate with periods of work. In this way trade-extension classes may begin by the trade school or department conducting its own continuation classes for the younger worker employed in the occupations for which training is given in the school. For the mature worker the service may be provided in evening school instruction.

The largest problem in training is connected with the trades in which highly skilled work brings the highest industrial opportunity and wage, but in which means of securing experience and training within the occupation are limited. Such trades have a recognized place in the all-day school curriculum. Any occupation for which training may advantageously be offered must have teachable content; must not be highly seasonal; must offer benefit to the worker for increase of skill; and must be potentially able to absorb the number of workers trained.

Considerable breadth of interpretation should be given the term "trade extension," in order that the girl or woman may progress in employment.

A course of study in a day vocational school to meet the requirements of the act must provide for a balance of subjects sufficient to insure a well-rounded course. The program for instruction must under the act require a minimum of 30 hours a week, for 9 months a year; and it must provide that one-half the time shall be spent in the shop on a useful and productive basis. For older groups of women confronted by the necessity for immediate wage earnings, it is desirable to increase the proportion of vocational work and decrease the time devoted to nonvocational subjects.

The Federal Board must require provision for instruction in related subjects adequate to accomplish the purpose of the act, which is not only to improve girls as workers but also to give them an intelligent understanding of the technical and theoretical aspects of their work.

*Trade or industrial subjects* taught in public vocational schools, departments, or classes at the present time are listed as follows:

Artificial flower and feather work.	Lamp shade making.
Beading.	Laundry work.
Bookbinding.	Manicuring and shampooing.
Cafeteria service.	Mechanical drafting.
Commercial art and design.	Millinery.
Dressmaking.	Tasting and leather trades.
Electric-power machine operating on clothing, embroidery, and straw.	Perforating.
Embroidering designing.	Printing and monotype keyboard operating.
French edge making.	Tailoring.
Glove making.	Telegraphy.
Junior nursing.	Trade design (for costume sketching, embroidering, etc.).
Laboratory assistants (chemical, metal, and bacteriological).	

*Related subjects* are worked out upon the fundamental principles of the trades or occupations taught, and vary somewhat with the different courses. Thus, English, which is an academic subject, might become a related subject in the printing trades and salesmanship in the millinery trade. Trade mathematics, trade science, and trade drawing may take on a variety of forms. In the traditional trades of dressmaking and millinery, the trade or workshop mathematics arises from actual problems in the workroom, and includes measurements, estimates, costs, business transactions, transfer of money, credit, discounts, budgets, maintenance, depreciation, and the like.

A study of textiles of value to workers and customers is based on qualities, prices, widths, uses, weaves, fibers, shrinkage, permanence of color, variations in standards, adulterations, and tests—supplemented with such general information relative to cleansing, bleaching, dyeing, printing, designing, sources of raw material, and types of finished product as may be usable in trade work.

Drawing, designing, and art as related to the making of clothing and hats treat of line, proportion, rhythm and balance, light and shade, color combinations, decorations, suitability to the wearer, the use of different fabrics, and means of securing effective results in costume designing.

*Industrial economics* is a term applied to a course which is given to acquaint girls preparing for workshops and factories with the economic and social problems attendant upon wage earning. It comprises—

- (1) Laws affecting the employment of girls and women.
- (2) Factory inspection.
- (3) Organizations for the betterment of working conditions.
- (4) Facts relating to specific occupations (e. g., hazards, preventable diseases).
- (5) Standards of work, wages, hours of employment.

(6) Types of shop or factory management (e. g., corporation, partnership).

(7) Employment tests.

(8) Simple business ethics relative to rights of workers and their responsibilities.

This knowledge is fundamental to the welfare of every wage-earning girl.

*Academic or nonvocational subjects.*—The part of a vocational program which is provided by the State or local community and for which Federal money is not available includes such subjects as English, civics, industrial history, commercial geography, and the minimum essentials of homemaking. Physical training and hygiene are of prime importance to the young worker, as physical fitness for a trade and an understanding of the principles of physical care and protection are absolutely essential for entrance upon industrial employment. Wherever possible physical deficiencies should be remedied or corrected.

One important service of the day trade school is the placement and follow-up of its students. Since the test of the training is immediate employment, it is necessary for the school to keep in close touch with the opportunities for placement and requirements upon the workers.

The following schedules comply with the minimum requirements set up by the terms of the Federal act (1) and present some types of variations in time distribution possible under the provisions of State plans (2), (3), (4).

(1) *Trade school for girls.*

Minimum age of entrance.....	14 years or over.
Length of course.....	1 year.
Length of school year.....	9 months.
Instruction per week.....	30 hours.

Shop instruction (50 per cent).....15 hours.

Instruction in related subjects (30-35  
per cent).....9 to 10½ hours.

Instruction in academic subjects  
(15-20 per cent).....4½ to 6 hours.

Length of daily session.....6 hours.

Departments of school comprise:

Shop subjects—

Sewing trades—

Dressmaking.

Millinery.

Power machine operating.

Related subjects.

Trade arithmetic and accounts.

Textiles.

Drawing and design.

Industrial economics.

Departments of school comprise—Continued.

Academic or nonvocational subjects—

Household science (minimum essentials).

English.

Civics and business relationships.

Commercial Geography.

Industrial history.

Other school activities—

Physical training.

Assemblies.

*Suggested schedule of hours.*

First year.			Second year.		
Minutes per subject.	Hours per week.	Subject.	Minutes per subject.	Hours per week.	Subject.
900	15	Shop.	900	15	Shop.
240	4	Drawing and applied art.	240	4	Drawing and applied art.
60	1	Textiles.	60	1	Textiles.
180	3	Trade and workshop mathematics.	180	3	Trade mathematics.
300	5	Civic and English (business methods.)	120	2	Commercial geography or industrial history.
120	2	Household science (minimum essentials supplemental to trades) or Industrial Economics.	180	3	English.
		Physical Education.	120	2	Household science (minimum essentials supplemental to trade) or industrial economics.
		Assemblies.			Physical education.
1,800	30		1,800	30	Assemblies.

TYPE SHOP COURSE.—POWER MACHINE OPERATING IN GARMENT TRADES.<sup>12</sup>

Machine operating is an industry requiring varying degrees of skill. The degree is determined by the grade of product turned out, and shows five fairly definite stages of work which require (1) mechanical speed; (2) accuracy with speed; (3) accuracy with deftness; (4) constructive ability; (5) artistic ability. The different degrees of skill, combined with the speed of the worker and the responsibility and intelligence required in each, accounts for the wide range of pay.

ELEMENTARY POWER MACHINE OPERATING.

Use and care of single needle machine:

Aim—

To develop independence and self-reliance in use of machine.

Control—

Starting, stopping—without thread, later with thread—stitching, spacing.

Care—

Dusting, cleaning, oiling, without and with removal of parts.

<sup>12</sup> A complete discussion of a power machine operating course may be found in a report on the organization and administration of a Trade School for Girls. Philadelphia Board of Education, pp. 52-60.

## Elementary garment construction:

## Aim—

To teach fundamental processes, and to establish right habits of work in use of the power sewing machine, and the handling of cotton fabrics.

## Fundamental processes—

Seams, hems, facings, and plackets, learned on simple garment problems.

## Production course in garment making:

## Aim—

To familiarize girl with work-room organization, division of labor, value of cooperation, and skill by specialization, as factors in "production."

## Production problems—

Garment problems analyzed into operations, planning and routing, inspecting, checking.

## ADVANCED POWER MACHINE OPERATING.

## Advanced garment making:

## Aim—

To train operator in handling of finer fabrics, the use of attachments, greater variety and more complicated problems.

## Instruction and production problems—

Alternation of instruction problems with production problems in variety of types of garments; underwear, plain dresses, shirtwaists, skirts, hospital garments, and the like.

## Special machine and attachments:

## Aim—

To give knowledge and training in the use of more complicated machines with all their attachments and diverse functions, multiple needle, buttonhole, hemstitching, embroidery, bonnaz, zigzag, and others.

## Production and repetitive problems—

Minimum requirements of operations mastered on common materials; more complex problems introduced by handling variety of fabrics or by repetitive work; acquirement of knowledge of several machines so worker may "fill in" when necessary.

## Special garments:

## Aim—

To determine the problems attendant upon production of a standard product, such as shirts and shirtwaists, pants, lingerie, neckwear, and the like.

(2) *Public school of trades for girls.*

Age of entrance.....	14 years and over.
Length of course (approximately).....	2 years.
Length of school year.....	11 months.
Instruction per week.....	35 hours.
Shop instruction ( $\frac{2}{3}$ time).....	21 hours.
Instruction supplemental to trade ( $\frac{1}{3}$ time).....	14 hours.
Length of daily session (8.30-12; 1-4.30).....	7 hours.

The course of instruction in each trade includes:

1. Shop practice and trade talks.
2. Drawing and applied art.
3. Trade and workshop mathematics.
4. English and business correspondence.
5. Household science.
6. Physical training.
7. Shop inspection trips.

(3) *Trade school for girls.*

Age of entrance.....	14 years and over.
(Eligible for employment certificates.)	
Length of course (1,400 hours instruction).....	200 days.
(Probationary period, 5 months. Experience in trade necessary for certificate, 3 months.)	
Length of school year.....	11 months.
Instruction per week.....	35 hours.
Approximate apportionment of hours:	
Trade practice (5 hours per day).....	25
Instruction nonvocational subjects supplemental to trades (1½ hours per day)....	7½
Hygiene and gymnasium (½ hour per day) -	2½
Length of daily session (9-12; 1-5).....	7 hours.
The trade departments of the school comprise:	
Needle trades.	
Electric power operating machines.	
Pasting trades.	
Embroidery designing and perforating of embroidery patterns.	
Supplemental instruction includes:	
Trade arithmetic and accounts.	
Textiles.	
Drawing and costume design.	
Industrial conditions and trade ethics.	
English.	
Physical training.	

(4) *Girls' vocational high school.*

Minimum age of entrance.....	14 years and over.
Graduation for eighth grade.	
Length of course.....	2 years.
Length of school year.....	40 weeks.
Summer term.....	6 weeks.
Instruction per week.....	32½ hours.
Shop instruction (½ time).	
Instruction in related subjects (¼ time).	
Instruction in academic subjects (¼ time).	
Length of daily session (8.30-12; 12.50-3.50).....	6½ hours.
Shop subjects include:	
Dressmaking.	
Junior nursing.	
Millinery.	
Power-machine operating.	
Telegraphy.	

Related subjects: Mathematics, science, drawing, etc.

Academic subjects: English, civics, history, or commercial geography.

Assemblies.

Physical training.

#### COURSE OF STUDY IN TELEGRAPHY.

Like other courses offered in the day vocational school for girls the usual length of a course in telegraphy is two years. A one-year course is offered for girls between 17 and 25 years of age, as preference is indicated by employers for applicants of this age in initial placement in branch offices of telegraph companies and in railroad work. Railway companies maintaining their own systems of training exercise great care in the choice of applicants for training in order to secure 100 per cent placement. A one-year course for the older group of girls who have had two years of high-school work, or its equivalent, distributes the hours of instruction as follows:

	Hours.		Hours.
Telegraphy (telephony)-----	15	Telegraphy -----	15
Typewriting -----	5	Typewriting -----	5
English and civics-----	5	English and civics-----	5
Mathematics -----	3	Accounting -----	3
Commercial geography -----	2	Commercial law-----	2
	<hr/> 30		<hr/> 30

Physical training and hygiene.

#### COURSE OF STUDY IN MECHANICAL DRAFTING.

The following course is outlined as a one-year trade course in mechanical drafting for girls with at least two years of high-school education, or its equivalent. It could readily be expanded into two years' work, arranged for part-time instruction, or in units for evening classes. During the war it was impossible to supply the demand, and girls went to work almost as soon as they were able to qualify as tracers and copyists. The distribution of time and content of the course follow:

	Hours.
Drafting -----	15
Elementary physics, stressing mechanics.	}
Mathematics, including problems on geometrical construction }	
English and civics-----	5
Shop work (elementary)-----	3
Industrial history or economics-----	2

30

Physical training and hygiene.

Drafting:

1. The use of instruments—scale protractor, slide rule, and calculations—is taught during regular lessons, not as a separate topic.
2. Lettering practice throughout the course.
3. Exercises involving the use of standard conventional representations.
4. Reading of blue prints and drawings.
5. Tracing on paper and cloth.
6. Free hand sketching of machines.
7. Finishing sketches.
8. Making assembly drawings.
9. Making detail from assembly drawings.
10. Isometric projection, perspective, and development of surfaces.

Elementary shop instruction, given in connection with the above course, provides:

1. Practice in machine shop, including operations on—
  - a. Drill press.
  - b. Milling machine.
  - c. Planer.
  - d. Shaper.
  - e. Lathe, etc.
2. Practice in simple operations of—
  - a. Turning.
  - b. Boring.
  - c. Thread cutting.

For the girl, the all-day trade school experience is characterized by the awakening of her industrial consciousness, helping her discover herself and her potentialities as a producer; and by the developing of right attitudes toward work and its possibilities for progression and advancement with adequate compensation.

The all-day school for girls has been slow in growth, and has developed under tremendous handicaps and prejudices. That these schools have persisted and at the present time form an integral part of about 20 public-school systems in various localities throughout the United States, indicates that they have met a need.

For the smaller cities it is possible to develop a girls' vocational school or department, where instruction may be given in home making and in trades, with due recognition of the difference in courses according to the aim in view.

#### PART-TIME SCHOOLS AND CLASSES.

##### THE FIELD FOR PART-TIME EDUCATION.

From the rapid growth of the movement for compulsory part-time legislation it may be inferred that the facts concerning school attendance and juvenile wage earning have become common knowledge. States are assuming the responsibility for their share of the national problem, which is stated here for the purpose of calling attention to the national need.

That great numbers of boys and girls quit school during the upper elementary grades is proved by the distribution of the total school enrollment of the country. The 1917 Report of the Commissioner of Education (p. 7) shows that the total school enrollment of 1915 was 21,958,836, distributed as follows:

	Per cent.
In elementary schools.....	91.03
In high schools, academies, and secondary schools.....	7.13
In higher institutions.....	1.84

The attendance begins a precipitate decline at the end of the fifth grade and at the age of 14 years. According to the Federal census in 1910 the percentage of boys and girls not in school differed slightly.

*Percentage not in school.*

	Boys.	Girls.
At 13 years of age.....	11.7	10.7
At 17 years of age.....	66.6	63.4

Approximately 2,000,000 children arrive at a given age annually. One-half of the children of 16 years and under 17 have left school either in that year of age or at some younger age. Of those 17 and under 18 years, two-thirds have left school, and of those 18 and under 19—that is to say, of those classified in the census as 18 years of age—more than three-fourths have left school. Of all boys 14 and 15 years of age, i. e., between the exact ages 14 and 16 years, 41.4 per cent, or two-fifths, and of all girls in these ages 19.8 per cent, or one-fifth, are in gainful employments. (Federal Census, 1910, Vol. IV, p. 69.) The number gainfully employed in the ages 14 and 15 years has been estimated for 1918 as being approximately 800,000 boys and 400,000 girls.

So far as employment records are available at the present time, the number of girls between 14 and 16 gainfully employed varies from one-third to one-half the total number of employed youth.

Because of the large numbers of children who leave school at an early age, without opportunity for choice of an occupation or an adequate understanding of the need of preparation for it, and because these same boys and girls drift into uneducative and unprogressive jobs, it is imperative that the public school extend its responsibilities to meet the needs of youths who have already entered employment by establishing part-time schools and classes.

The object of the part-time school is to extend an educational service to boys and girls during the transition from school to work, conserving their education and extending it; helping them choose a vocation, counseling and following them up in order that their schooling experience may be closely related to their needs and duties as potential citizens and workers. Compulsory part-time legislation

presupposes compulsory school attendance laws, the regulation of work permits, the prohibition of employment of minors in occupations dangerous to health and morals, the regulation of hours of labor and of conditions of employment. In most States this social legislation sets more stringent restrictions on girls than on boys.

By linking up child-labor laws, the compulsory school-attendance laws, and laws providing educational supervision of employed children it is possible to emphasize the new conception of the child's relation to education and to industry and the importance of real preparation for future work. It is likewise possible to establish the principle that the young child is no longer to be regarded as at once attaining the independent status of the wage-earning adult when she enters employment. The continuation school is the direct outgrowth of modern industrial development, subdivision of labor, introduction of machines, the evolution of the factory system, and the growing conviction that the State must look to the future and meet the needs of all its children. It must bridge the gap between school and work and between juvenile and adult employment.

Assuming that this measure is socially and economically justifiable, it becomes at once an educational responsibility and opportunity requiring the cooperation of the employer, the worker, the school, and of all other social agencies organized to serve the youth during the formative years. No single agency can secure effective results alone. In order to foster a public sentiment favorable to the measure, it is desirable to secure the confidence of parents and employers and convince them that the school is undertaking a piece of practical work.

To bring home to parents the significance and possibilities of continuation schools should be the work of an advisory committee. Occasion should be made to explain the State law in public meetings, parent-teacher associations, denominational gatherings, social clubs, and political organizations. In this way parents may know what education means to their children. It is not strange that they take short views and consider that the child's wages are of more value to their household than "book learning." When once convinced of the advantage of education in the life of the child the parents become supporters of the program.

The labor organizations are an important influence in conserving and safeguarding the interests of the child, and have always recorded their approval and rendered assistance in any constructive program which insures to youth a wholesome balance of education and recreation as well as work.

There is no better ally in the enterprise than a public-spirited employer who serves as a pacemaker in his community. Every effort should be made to enlist the interest and support of every such

employer and to utilize any assistance he offers. This means interviews and conferences relative to determining policies and programs. It often means reorganization of departments in which the young people are employed and readjustment between their work and their school program.

Most effective cooperation has been obtained by the vocational or advisory committee of a local chamber of commerce through providing a program for a public meeting prior to the opening of school, at which a brief explanation of the compulsory-education laws, the Federal child labor law, the State regulations for issuance of employment permits, and the local program for part-time classes may be explained. Not infrequently the result of such meeting is the return of many children to the regular school.

With the desire to serve the immediate needs of large groups of young workers, the Federal Board has placed a liberal interpretation upon the Federal act as regards the provision, in itself liberal, to the effect that instruction offered in general continuation schools may be any instruction "to enlarge the civic and vocational intelligence" of workers over 14 years of age. "Federal moneys may be used in part-time schools and classes for salaries of instructors in trade, home economics, industrial, commercial, and general education subjects." In other words, any educational program related to work in the store, the office, the shop, the factory, or the home, or necessary for general improvement and good citizenship, may be subsidized if it extends over a minimum period of 144 hours per year. If more than 50 per cent of the program is devoted to specific instruction in a definite vocation it becomes a commercial continuation class or a continuation class in home economics or a trade and industrial continuation class.

Although the movement for compulsory part-time schools is of recent origin in the United States, yet in September, 1920, the following 19 States will have schools in operation:

Arizona.	New York.
California.	New Jersey.
Illinois.	New Mexico.
Iowa.	Oklahoma.
Massachusetts.	Oregon.
Michigan.	Pennsylvania.
Missouri.	Utah.
Montana.	Washington.
Nebraska.	Wisconsin.
Nevada.	

In addition to the States which now have legislation for compulsory part-time school attendance, Indiana, Ohio, West Virginia, and Connecticut have taken initial steps toward the establishment of similar provisions for minors.

The provisions of State laws differ in respect to school-leaving age, hours, and place and age of required attendance in part-time classes. The age of compulsory full-time attendance varies from 14 to 16 years; the age of compulsory part-time attendance varies from 14 to 18; the hours of required instruction per week from 4 to 8 in periods of varying lengths.

The imminent problem confronting the States which are inaugurating this program is one of recruiting teachers with a decidedly social point of view and training them for a new type of service. If the need of the continuation school is realized, it will be self-evident that the good teacher must possess high qualities of character and temperament, sympathy with the desires and aspirations of youth, a comprehension of its qualities and limitations, and a power to explain the interplay of knowledge and life, simply and patiently, and to implant an enthusiasm which will bear fruit.

More than this, the teacher should become familiar with the work-a-day lives her pupils lead; with the organization of the offices, factories, or stores in which their working hours are spent; with their tastes and habits in times of leisure; and with the conditions of their home life. Experience as a leader and organizer of girl's clubs or as director of playground and recreational activities will be most helpful. Industrial experience would enable the teacher to make her relations intimate, personal, and human instead of academic and remote.

However carefully these teachers are recruited, short periods of special training in the purposes and methods of education and their application to the problems of the continuation schools will generally be necessary. It is needless to say that short recurrent courses for improvement of teachers in service likewise must be worked out parallel to the development of the enterprise. The experiences of Wisconsin, Boston, and Pennsylvania furnish some background, yet it will be necessary for each State to assume the responsibility of assisting its own communities in the appointment of competent staffs of instructors.

A number of recent publications will be found of assistance in enabling States and localities to work out the details of plans for the establishment of schools. Among those readily available are the following:

Bulletin on Course of Study and Administration for Continuation Schools, Harrisburg, Pa. 1918. Revised 1920.

Boston Continuation School, School Document No. 4, 1919.

Introductory Course in Part-Time Education—University of California in cooperation with State Board of Education, 1920.

Michigan State Board of Control of Vocational Education Bulletin No. 212, May, 1920.

University of the State of New York Bulletin No. 697, Organization and Administration of Part-Time Schools.

In the last analysis the success of any program will depend on the ability of the local organization to meet community conditions. The location of classes, the enforcement of attendance, the making of routine records and forms, the grouping of students, the segregation of classes, the determination of the length of sessions, and the preparation of a program of instruction are responsibilities of the local staff. There are certain general facts which may guide in determining the organization.

It is generally conceded that certain services may be expected in the part-time school besides instruction, such as care of health, vocational counsel, placement, and follow-up.

The factors that determine the classification of pupils in groups are age, school attainment, present occupation, and prospective occupation. In all probability the most expedient basis of organization for instruction is school attainment, but it is one which unfortunately easily leads to the making of the part-time program, one which provides simply for an extension of the regular school work. With the younger group instruction for general improvement will probably dominate. It will be based on an interpretation of working experiences and new applications of the fundamentals of a general education. The amount of vocational work will be increased with the age of the pupils, and may be designed to fit the needs of individuals in their present job, or to prepare for promotion, or to change to another position.

The courses and methods of instruction must take into consideration the following items:

1. That new pupils are entering constantly as old pupils arrive at the age limit and leave.
2. That the periods of attendance are short, with intervals between.
3. That the pupils are of varying grades of school attainment.
4. That many have left school because of distaste for study and discipline.
5. That they are experiencing the influences of adolescence.
6. That they are workers with a first-hand knowledge of life as seen from the shop, the factory, or the store, and the street, expecting recognition of the change in point of view which their new experiences have wrought.

From these considerations it will be evident that the program and methods of teaching must depart from those of the regular day school. Class work becomes difficult and undesirable, and more

dependence must be placed on individual instruction. Continuity of subject matter is essential and is best preserved when each lesson is a unit in itself, which can readily be renewed and made the beginning point for new work.

The following programs indicate some variations in the time allotment to the subjects included in continuation school programs as influenced by the provisions of the different States:

*I. Suggested schedule of subjects and hours.<sup>13</sup>*

(Based on 8 hours per week, 36 weeks per year.)

GENERAL CONTINUATION FOR INDUSTRIAL GROUP.

	Hours.
English.....	1
Social sciences (citizenship, industrial history, and economics).....	1
Arithmetic, including shop problems, the personal budget, and thrift problems.....	1
Health and safety.....	1
Industrial subjects, including drawing, study of materials, and industrial laws.....	4

For girls in the industrial group two hours per week should be taken from the above subjects for homemaking courses.

GENERAL CONTINUATION FOR COMMERCIAL GROUPS.

	Hours.
English (business chiefly).....	2
Social sciences (citizenship, industrial history, and economics).....	1
Commercial arithmetic, with attention to the personal budget and thrift....	1
Health and safety.....	1
Bookkeeping and filing.....	3
Or,	
Shorthand and typewriting.....	3
Or,	
Salesmanship and merchandise study.....	3

For girls in the commercial group, two hours per week should be taken from the above subjects for homemaking courses.

GENERAL CONTINUATION FOR ACADEMIC GROUP.

	Hours.
English.....	1
Social sciences (citizenship, industrial history, and economics).....	1
Arithmetic based on work in the home and including thrift.....	1
Health and safety.....	1
Homemaking subjects, including art and study of household materials and foods.....	1
Or,	
General study of industry and business.....	4
Or,	
General study of industry and business and varied shopwork.....	4

<sup>13</sup> The compulsory Part-Time School, Bulletin No. 212, Michigan State Board of Control for Vocational Education, pp. 17-18.

*II. Schedule of subjects and time allotment in general continuation school.<sup>14</sup>*

(Based on 8 hours per week, 36 weeks per year.)

	Minutes per week.
English .....	80
Current events.....	40
Hygiene (25) and recreation (15).....	40
Industrial geography.....	40
Civics (25) and music (15).....	40
Arithmetic.....	60
Drawing.....	60
Practical work.....	120
Trade or industrial.	
Commercial.	
Home economics.	

*III. Outline of part-time courses (general continuation) indicating suitable distribution of time.<sup>15</sup>*

(Based on 4-8 hours per week, 36 weeks per year.)

	Four- hour pro- gram.	Eight- hour pro- gram.
American history, industrial history, civics, and economics.....	30	60
English .....	30	60
Arithmetic and applied mathematics.....	30	60
Hygiene and physical training.....	30	60
Industrial subjects, as shopwork, drawing, laws relating to industries .....	120	240
or		
Homemaking subjects, as cooking, sewing, home decoration, household sanitation, millinery.....	120	240
or		
Commercial subjects, as elementary vocational business practice, bookkeeping, typewriting, filing, shorthand, and retail selling.....	120	240

*IV. General continuation classes in the textile industries of the Southern States.<sup>16</sup>*

(The allotment of time is based upon 4 hours, or 240 minutes, per week for 36 weeks. The minimum requirement of law—144 hours per year.)

	Minutes per week.
English: Reading, composition, oral and written.....	30
Spelling and penmanship (15 minutes each per week, or on alternate weeks).....	30
Arithmetic.....	30
Citizenship, current events, industrial geography (on alternate weeks).....	30
Physical training: Hygiene, safety first, first aid, 15 minutes; gymnastics, 5 minutes (games out of regular hours).....	20

<sup>14</sup> A Bulletin on Course of Study and Administration—for Continuation Schools. State Board of Education, Bureau of Vocational Education, Harrisburg, Pa. 1918. P. 4.<sup>15</sup> Organization and Administration of Part-Time Schools. University of the State of New York Bulletin. 1920. Pp. 22-23.<sup>16</sup> Evening and Part-Time Schools in the Textile Industry of the Southern States, Bulletin No. 30, Federal Board for Vocational Education, p. 96.

	Minutes per week.
General science (agriculture and gardening in season; nature study)-----	20
Shopwork, boys (according to facilities for instructions), or commercial subjects, typewriting and accounting, or practical home making, girls, including general housekeeping, cooking, and sewing-----	40
Household mechanics-----	20
Assemblies (to be used for general talks, conferences, and group activities)-	20

*V. General continuation class—approximate schedule of subjects and time.<sup>17</sup>*

(Based on 4 hours per week.)

	Minutes.
English—oral and written-----	40
Civics-----	20
Hygiene-----	20
Arithmetic and drawing-----	40
Shop or commercial subjects-----	120

*VI. General continuation class—approximate schedule of subjects and time.<sup>18</sup>*

(Based on 4 hours per week.)

	Minutes weekly.
Citizenship and health (required by law)-----	40
Common-school branches, such as reading, writing, arithmetic, and spelling--	80
Occupational work, including finding courses in agriculture, industry, com- merce or home economics-----	120

THE GIRL, THE JOB, AND THE PART-TIME SCHOOL.

Educators now recognize the right of working children to part-time instruction, but are apt to slight the working girl in the early stages of organizing continuation classes, partly because their attention is diverted to the nonconformist schoolboy—a greater problem numerically and psychologically. Nevertheless, the girl is just as seriously handicapped by lack of training for a job and is even in greater need of vocational education and relaxation because of the economic pressure of disturbed domestic relationships that sends her forth from home to work.

Conditions of the home have more to do with girls' withdrawal from school than any other reason, whereas a boy's reason for withdrawal is usually connected with the school. Girls go to work in response to the economic and physical needs of the home; seldom from dislike of school or preference for work. Boys may come from homes where economic and physical needs are not pressing. Courses of study, methods of teaching, and school discipline do not appeal to them, and the mechanically inclined express a preference for work.

<sup>17</sup> Boston Continuation School—School Document No. 4, 1919. P. 15.

<sup>18</sup> Introductory Course in Part-Time Education. University of California in Cooperation with the State Board of Education. P. 44.

Most people fail to analyze the mental states of the girl worker. She is influenced by the popular belief and expectation that wage earning is not a permanent proposition. She wants to go with the throng, do what other girls do, have what other girls have, and, what is more, be seen having it. She is influenced by friends in the choice of school, work, clothes, recreation, etc. She sets the seen above the unseen, the immediate over and against the more remote. She is influenced by the social prejudices toward levels of employment. She is conservative because hampered by the dread of change and shift. She is daring because, having little to lose, she is willing to hazard all and get a new job, if necessary.

Usually a high percentage of girl industrial workers live at home or with relatives, especially those under 18 years of age. Boarding homes in connection with industrial plants indicate an increasing tendency on the part of young workers to leave home for better wages or more congenial employment. It is very much to be hoped that part of the time in the continuation school will be devoted to learning a real job offering economic independence at an early age, since the chance of attaining a marital condition in which the wife does not share—if not actually bear—the economic burden of the family is slight. It is very certain that unless vocational instruction is easily accessible and an accepted part of the program, the disposition to use spare time or money for self-improvement is unavailing.

Girls who withdraw from the public school either resume further schooling, remain at home, or go to work. The public school may accept such instruction as is accorded recognition under the terms of the compulsory attendance laws of the State either for day or part-time classes.

Many girls leave the upper elementary grades urged by personal solicitation and attractive literature bidding them to short vocational courses preparing for wage earning in which too early an entrance will be a positive handicap throughout their working life. The diverse types of service in connection with the attendance department, guidance, and placement bureaus may be of advantage to these girls, many of whom gravitate into cities from small towns and rural communities.

Girls with home permits should be served, in the main, in such a way as to make their present experience through interpretation and instruction, return to them the greatest possible educational growth, yet they should also be considered in the light of their possible entrance to wage earning.

Training for a vocation is a valuable training for the future homemakers, and can be made to cover all the relations of life. To get a job, hold it, and advance in it, and make it worth while, and have it make you worth while is sound philosophy for the shop, the office,

or the home. It takes not incidental attention, but planning, organizing, systematizing, and self-sacrifice.

There is always some shifting between groups, from the home to the working group, or vice versa, as well as from the working to the unemployed group. The girl who stays at home to help may be a bona fide housekeeper for the father, a helper in case of illness in the family, a temporary housekeeper and caretaker of the younger children because the mother is at work, or temporarily detained because of her own ill health. As soon as the need for her help at home no longer exists, younger children having arrived at a state of self-dependence, or her health is improved, or as soon as her possible earnings can approximate her mother's, or when her desires exceed the family pocketbook, she, too, will go to work.

Beside her dominant training for homemaking, in anticipation of this working experience she should be insured a knowledge of the economics of wage earning and of the opportunities for the same. Upon these essentials depends her future ability to take care of herself and thus to become a steady and successful worker instead of a casual worker or dependent.

The group of girls to whom work permits are issued comprises by far the larger number. The information which may be obtained concerning them through the various school departments and agencies of service should be organized into a body of common knowledge fundamental for the development of the part-time program.

The continuation school-teacher should have such information as the following: The age and grade of girls at the time of withdrawal; the reason given at school, and the reason alleged by the parent at the time of the girl's application for employment certificate. These will reveal the attitude of the girl toward schooling, her choice of work or further training, physical disability, home responsibilities, and other influencing factors. They likewise may disclose home conditions which can be remedied in order to keep the child in school, such as unemployment in family, sickness, delinquency of parents, low wage, and the like. The kinds of work for which permits are issued will bring to light the occupations at which the girls are employed or which may be made available to them.

The age, initial wage, and earnings at the end of her minority may be significant in determining what assistance may best enable the girl to make the transition from juvenile to adult employment.

Her expenditures will indicate her economic status, her financial responsibilities to her family, her savings, and the cost of her maintenance. Home expenses, clothing, food, and recreation are the chief items of expense. Three-fourths of the women workers use a large portion of their earnings to purchase food and one-fourth of the

workers receive food as a part of their wage.<sup>19</sup> The lack of proper food not only causes morbid conditions of the body but also increases the hazard of industrial accidents and disease. Personal interest and advice, as well as direct instruction with reference to suitability of dress, health, recreation, public behavior, conduct, and social conventions frequently result in marked improvement of the girl.

The occupations which are open to the 14 to 16 year old boy or girl do not differ greatly in responsibilities or opportunities. She "fetches and carries," too, but in a more limited area. A year's record of employment permits in a midwestern metropolis (population 415,718) records the occupation of the 14 and 15 year old girls (June, 1918-May, 1919) as follows:

Carrier and delivery (inside)-----	1/3
Merchandise-----	1/4
Mechanical work-----	1/5
Clerical-----	1/5
Domestic (recorded only when supervision is necessary).	

For counseling and placement purposes, information relative to establishments in which these workers are employed would be desirable to have on record, including such points as the following:

1. Number of workers.
2. Positions in the firm—
  - a. Duties.
  - b. Requirements—physical, mental, technical, knowledge, skill.
  - c. Wages.
3. Selection of workers—
  - a. Sources, method of hiring, placing, and releasing.
4. Organization for promotion and advancement.
5. Conditions of employment.

A rough survey of the out-of-school group of girls and the total enrollment in public and private high schools of the country indicates the probability of wage earning for the girl, the extent to which this motive figures in her life, and the recognition which should be accorded it in an educational program.

An approximation of the distribution of the out-of-school group of girls between the ages of 14 and 20 in 1918 signifies the relative numbers gainfully employed and at home by age groups.

<sup>19</sup> Food of Working Women in Boston. Women's Educational and Industrial Union, Mass. State Dept. of Health, 1917.

*Estimated number of girls in 1918.*

(Vocational summary, 1918, pp. 5-6.)

Age group.	Not in school.	Gainfully employed.	At home.
14-20.....	4,350,000	2,400,000	1,850,000
14-15.....	480,000	390,000	90,000
16-20.....	3,870,000	2,100,000	1,770,000

The report of the Commissioner of Education, 1917, shows that the enrollment in the leading courses of study in public and private high schools in 1915-16 was as follows:

	Per cent.
Total.....	100.0
Academic courses.....	66.4
Commercial courses.....	13.7
Technical and manual training courses.....	6.9
Training courses for teachers.....	2.0
Agricultural courses.....	3.4
Domestic economy.....	7.6

It will be seen from the above table that one-third of the students were enrolled in courses somewhat practical in character. It is assumed that the boys dominate in technical and agricultural courses (10.3 per cent); and that the courses in teaching and domestic economy are largely confined to girls (9.6 per cent).

In all probability the number of girls enrolled in practical courses in the high school outstrips the number of boys to the degree to which they dominate in commercial courses.

## SPECIALIZED PART-TIME INSTRUCTION.

Some beginning experiments have been made in various parts of the country which show possible developments and variations of part-time classes under this most flexible organization. The requirements of the act are (1) that the classes shall be under public supervision and control; (2) that the minimum age of the worker shall be 14 years; or (3) that the instruction shall be designed to increase the civic or vocational intelligence and continue for a period of 144 hours as a minimum.

The following types of classes fulfill these conditions and are subsidized from trade and industrial funds:

1. General continuation schools in connection with the textile industries in the South, developed by a system of pairing the workers. The children are divided into two shifts, alternating five hours' work with three hours' schooling. One of each pair of workers is detailed for the morning in the mill and for the afternoon in the school; the other pair reversing the schedule. The details of the plan are given in Bulletin No. 30, Trade and Industrial Series, No. 5, "Evening and

Part-time Schools in the Textile Industry of the Southern States," issued by the Federal Board for Vocational Education.

2. As a part-time trade preparatory class in a general continuation school, vocational instruction was made possible through the cooperation of an interested employer. His motives could not be questioned, as he employed none but mature women in his own factory, which closed for the week at 11 o'clock on Saturdays. A group of continuation-school girls desirous of learning the power machine operating trade were organized under the direction of the regular continuation-school teacher and were permitted to use the machines under the supervision of the forewoman and factory instructor who gave the work as employees of the public-school system. A similar experiment was tried in a shirt and underwear factory, also, in the teaching of knitting, topping, and looping in a hosiery mill.

3. Trade preparatory instruction. In order to extend a service through industry to the factory operative forewoman and supervisor, the Federal Board has ruled that trade preparatory instruction may be given in part-time classes under the following conditions: Workers who are employed or who are under agreement for employment may be given such instruction under public supervision and control as will secure for them advantageous entrance to a trade or industrial occupation provided the instruction period is 144 hours and otherwise fulfills the requirements of the Federal act. Classes of this type are in operation in garment factories. The new worker is assigned to a training department where she receives instruction from a teacher employed by the public school. When the learner reaches a certain degree of proficiency she is transferred from the instruction to the production department. Training of women multiplex operators in the telegraph offices is organized on a similar basis and approved for Federal aid.

4. Coöperative part-time classes, organized on the basis of an alternation of employment and instruction. The minimum period of work required is 50 per cent of the total period of attendance and instruction. The time may be divided on a day, week, or month basis. For example: The "In and Out" group in an advanced class in trade dressmaking, by a system of pairing and alternation provides two weeks' instruction in school followed by two weeks' progressive employment in the trade. Not only is the trade teaching subject to Federal aid but also any other classes formed for specific instruction of this segregated group of workers if it can be shown that the school system incurs an additional expenditure by the operation of such part-time classes. Likewise the salary of the coordinator who by follow-up work in the plant correlates the class instruction to the practical experience may be paid from Federal funds. (Vocational Summary, Vol. I, No. 2, p. 16.)

5. During dull season or shutdown periods, part-time general continuation, trade preparatory, or trade extension classes organized for the employees. If the period of instruction covers 144 hours and otherwise complies with the terms of the act it may be approved for aid. Power machine on classes may provide an opportunity for the worker to learn the operation of a new machine, or a new process involved in the making of a standard product.

6. Trade-extension classes for forewomen and "leaders," organized for instruction in subjects relating directly to the production factors or processes. This may be given wholly on employer's time; wholly on the employee's time; or partly on the time of each. When the class is held during the closing hour of the working day and extended on the employee's time it becomes a combination of part-time and evening-class instruction, and the expense is prorated accordingly. The content of evening and part-time courses may be industrial, the classification depending upon the time of instruction. When given during the regular hours of the working day it is part time; when outside the scheduled hours of employment it is classified as an evening course. Classes organized by the public school for teaching dietetics and chemistry to nurses in training in local hospitals as trade extension classes admit of either classification and may receive subsidy from the trade and industrial fund.

The part-time school overcomes the obstacle of cost; overcomes the objection made by parents to keeping their children in school; overcomes the unwillingness on the part of the girl to remain in school; vitalizes teaching by giving it a definite job and illuminates the job. The manufacturer and the merchant frequently provide the plant and some forms of specialized instruction, when desired, since the benefits indirectly accrue to the employer as well as to the worker. Such schools establish intimate and solid relations between the school and the community, emphasizing their interdependence.

Among the advantages which the Nation may expect to derive from this service may be noted the removal of some of the traces of inadequate schooling in early years and inadequate training in shop and factory, which characterize large numbers of our adult citizens to-day. We have a limited amount of experience to guide us. Mr. Fisher, president of the British Board of Education, who is responsible for the inauguration of a part-time compulsory school attendance program in England, says: "We have much to learn; there is plenty of room for experiment, and we need not be afraid of the method of trial and error."

#### TRAINING IN INDUSTRIAL PLANTS.

With all the commendable agencies organized under public supervision and control, the great multitude of women workers in in-

dustrial employment can not be reached unless modern industry becomes a party to the training of its workers. Because of bodily and mental fatigue, obligations to family, and other duties, comparatively few mature women are able, even if willing, to attend evening classes. For this reason, if they are to be reached, their daily work must be made a medium for their improvement as well as a means of livelihood. There is no doubt but that industry, the worker, and the public alike benefit from training factory operatives within the plant. As yet no line of demarcation has been drawn relative to that part of the training the cost of which the industry itself should bear and the service which the public school can render.

It is true that every industrial concern has been doing some training, usually in an incidental and unorganized way, to perpetuate its own existence by replacing the constant loss of workers. During the war the problem of increasing production with a constantly decreasing supply of experienced workers necessitated the employment of large numbers of women in war-essential industries. This led to experimental training in plants engaged in the manufacture of such a wide diversity of products that some definite results were obtained and conclusions reached. The United States Training Service of the Department of Labor, in Bulletins 1-25, has recorded the details of organization of training departments for various women-employing industries and provided training outlines. The rubber industry, garment industries, including women's cloaks, suits, and skirts; men's suits and overcoats; men's shirts, overalls, and pants; the textile industries, including weaving and knitting; the making of piano players, paper boxes, shoes, electrical machinery, optical instruments, computing machines, automobile parts, aeroplanes, all have experimented in training women workers. In many cases during the period of adjustment following the signing of the armistice these departments were discontinued, but they are gradually being revived as permanent educational departments in manufacturing establishments rather than on an emergency basis.

Women still continue to be an increasingly important factor in the industries mentioned above, as well as in many other types of light metal and wood-working trades. Their actual presence and the realization of their possibilities as workers have lead to a realignment of tasks, the introduction of automatic-machine devices, and improvement in conditions for workers whether they be men or women. Every attempt has been made to make their work error proof and hazard proof. In many kinds of machine operating, inspecting, testing, and assembling of small parts women have gained a permanent place.

As a result of the increased number of women in industrial occupations, the need of women executives in the employment depart-

ment was recognized by the opening to women of the Government courses in employment management established during the war. The greater the number of inexperienced workers the greater the number of supervising foremen necessary to insure production. It was found that the teaching function could most readily be delegated, though the factory foreman was often reluctant to assign it to any other agency than himself, or to receive workers in any other than the usual way. Experience proved women instructors most desirable for instructing the girls and women workers entering into employment. Provision was made to develop them within the plants (1) by choosing from among the skilled workers those who could teach and (2) by recruiting groups of educationally trained women who served a period of apprenticeship in the different departments within the plant, being transferred from department to department as they reached a certain per cent of production. As an emergency measure training departments were inaugurated, and the function was recognized as separate from employment, separate from production, and separate from welfare, but related to all three. The demand from the factory floor determined the training. Production records disclosed the need for up-grading training. By up-grading is meant the improving of an employee's output by a brief intensive training in the best methods of performing a single operation or series of operations.

In some industries the woman welfare worker arranged for the instructional service of the foreman to the woman in need of assistance. Though this still continues in some plants, yet in the main two types of training schemes developed: (1) A separate department with a follow-up of instruction on the factory floor, and (2) training on special machines on the production floor in industries where the type of automatic machinery prevented the establishment of separate training rooms. The separate training room is supposed to serve as a "vestibule" or outside factory to meet the demands of production. It is under definite control and supervision with definite relationships established with the other departments. To it the learner is assigned by the employment department for training according to the needs of the plant; the deserving help may be up-graded for efficiency; workers of good production records who qualify for promotion may be taken into the school to learn operations of a higher grade; workers of poor-production records may be brought up to standard or shifted to a new job for which they receive training; workers who are desirous of getting experience for "flying squadron" service may apply for instruction in order that they may have a chance to work in other departments when the season is slack; and applicants who claim to have experience may be tested out in the job for which they have applied or for the

purpose of discovering their abilities or disabilities. Another function of the training department is to test out new tools and new methods of operation. The department is concerned in methods of obtaining learners, training, supervising, transferring, and following up the workers by means of a corps of advanced instructors. The best results are obtained from training upon production according to standards set by planning departments.

Training on the factory floor in shops in which conditions will not warrant a separate training room must be flexible enough to provide for fluctuations in production that occur in the ordinary factory, as the production schedule has the right of way. Certain machines may be set aside or "tagged" for breaking in new help or upgrading those already employed.

There are decided disadvantages in training on the production floor among the larger body of workers. These are:

- Discouragement of the learner.

- Disorganization of routing and shop control.

- Decreased production.

- Larger spoilage of product.

- Lack of opportunity to acquaint worker with policies of the plant.

When placed beside a speedy, experienced operator the new employee is apt to become discouraged at her slowness in attaining equal production. Here the emphasis is on production and the learner whose attention should be focused on the learning process will have it diverted by the speed of her neighbor.

The new operator or the old one at a new operation is sometimes discouraged intentionally by statements of associates that she can never hope for a fair income on her new job. This is a frequent source of labor turnover.

Inexperienced people distributed through the shop retard production, making planning and scheduling more difficult. The production of an experienced operator is diminished for every beginner taught. Spoilage of product is also apt to be large, because the learners are not given the consideration accorded in a training room, and an attempt at speed before correct methods have been acquired endangers the quality of the output. Faulty production methods are perpetuated.

The training room, or "tagged" machines, should be near to the production floor so that work can be readily transferred. It should be accessible to the employment department from which it receives the learner, and as quiet as possible for instruction under the best physical conditions. Although production is expected of the training department, its prime object is to train workers, and therefore it is arranged with regard to instruction rather than production. Its

equipment should be in prime condition, conducive to the formation of right habits of work. In some industries the department, however, forms a complete production unit, the stock being routed on the same general plan as in the factory. The director is responsible for the right type of materials to work on, the production assigned to her, and for an output of trained workers. Teachers are selected who have the psychological insight as well as a knowledge of the operations to be taught, the manufacturing processes, the production schedule, the causes for the shifting of workers, and the causes of low production and of waste. Leadership, ability to analyze the operations, and to instruct according to the best method are essential to her success.

The number of learners assigned to a teacher can not be as great as the number of workers assigned to a forewoman, but will depend largely upon the difficulties of the operation taught.

Record charts of the progress of the learner should indicate her production schedule and salvage curve, together with notations of special hindrances. This is important in determining when her training is complete and in placing and upgrading her.

The unorganized method of training women which prevails at the present time is to place the new worker among experienced workers. There she may learn what the older workers are disposed to teach her. Inasmuch as production is the chief duty of the worker, assisting her neighbor means to her loss of time, loss of production, and the training of a possible competitor, thereby diminishing her chances of employment. To the learner it means spoiled material, bad working habits, lack of incentive, discouragement, and shift of employment. If left to her own devices, the chances are small that she will hit upon the one best way of doing the task assigned. Apprenticeship systems for girls in plants have been a matter of time serving rather than training.

The obligation of the training department to the learner is to bring her in the shortest possible time to the point at which she can earn a satisfactory wage, and to make the training cost her as little as possible. In fulfilling this obligation the department works for the mutual benefit of the plant and the girl worker.

Not much progress can be made in training in plants, other than those which are large enough to train their own teachers and forewomen, until competent teacher trainers are placed at the disposal of industrial plants as a public educational service. Through the provisions of the Federal vocational act this service is organized for the assistance of industry in every State.

Training of operatives is not a distinct and abstract subject which can be worked out along general lines outside the industry. Programs for training necessitate intimate and first-hand knowledge of

the industry. The person who develops such a program must spend much time studying:

- (a) Processes.
- (b) Working conditions.
- (c) Methods of production.
- (d) Steps in advancement.
- (e) Machines and their requirements of the worker.
- (f) Technical knowledge required to set up and run the machine.
- (g) Type of skill required.
- (h) Kind of supplementary knowledge or training which would increase the intelligence and consequently the capacity of the worker for advancement and higher earnings.

One substantial means of stimulating and promoting vocational education is for the State and local agencies to induce plants inaugurating systems of training their operatives to utilize the services of State and local directors in making studies to determine the training possibilities in the local industries. A liberal interpretation of that section of the Federal vocational act dealing with part-time education makes the Federal funds available for instruction of persons who are definitely scheduled for employment or under formal agreement to be employed, fitting them for advantageous entrance into a trade or industrial occupation, providing such instruction extends over a period of 144 hours' duration and is given during the regular hours of the working day.

Because of increasingly important influences in the conduct of business, as well as the inevitable changes in industrial methods which grow out of new inventions, new materials, and new ideas of management, problems of industrial education can be solved only by searching inquiry, experiment, and constant readjustment to changing conditions.

## APPENDIX A.

### SYNOPSIS.

A detailed synopsis of the contents of this bulletin is included to facilitate its use in teacher-training classes, for ready reference, for assignment, for summaries, and for brief reviews.

### INTRODUCTION.

1. Attention of public focused sharply on women wage earners.
2. Demand for constructive educational program based on recognition of these facts.
3. Federal vocational act admits of extension of same opportunities to women as those outlined for men in Bulletins 17, 18, 19, Organization and Administration of Industrial Schools, and other publications of the Trade and Industrial Series.

#### PART I. ECONOMIC AND SOCIAL ASPECTS OF VOCATIONAL EDUCATION FOR GIRLS AND WOMEN.

##### I. EXPANSION OF OPPORTUNITIES FOR VOCATIONAL EDUCATION FOR GIRLS AND WOMEN UNDER THE FEDERAL VOCATIONAL ACT.

1. Act provides educational program for prospective or present employment by the apportionment of Federal funds to States for—
  - a. The making of studies to foster the same.
  - b. The establishment of schools or classes.
2. Act was passed when war demanded of women—
  - a. Conservation—the task fell on home maker.
  - b. Production—the task fell on wageworker.
3. Necessity for increased production of war essentials resulted in redistribution of workers and training—
  - a. For workers.
  - b. For supervisors of employment, of production.
4. Types of training for industrial workers recognized at present:
  - a. Technical—for experts.
  - b. Supervisory—leaders.
  - c. Occupational—operatives.
5. Opportunities for technical (preparatory) limited; opportunities for supervisory and occupational provided for employed group, however, theoretically available to all workers, women and men alike.
6. All three forms recognized under terms of Federal vocational act.

##### II. ECONOMIC AND SOCIAL ASPECTS OF VOCATIONAL EDUCATION.

1. These factors have at times accelerated or retarded progress which evolves in a cycle.
  - a. Economic stress forces women workers into new fields.
  - b. Society accepts their presence as a fact.
  - c. Private enterprise demonstrates possibilities of training.
  - d. Public agencies assume service.

The above stages mark the progress of both commercial and industrial education.

2. Numerous and intricate problems of social psychology of girl worker are educationally complex.
  - a. Conditions which environ her set limitations.
  - b. Social attitudes make her an opportunist.
  - c. Public underrates industrial employment as a field of service to society.
3. Social workers and economists initiated a program of protective legislation.
  - a. To safeguard present interests of worker.
    - (1) Minimum wage had economic and social bearings primarily.
  - b. To safeguard the future interests of society.
    - (1) Compulsory part-time school attendance is primarily a social educational problem.
4. Educators and sponsors of education must recognize the social and economic factors influencing the inauguration and operation of a program for vocational education for girls and women.

### III. FUNDAMENTAL DISTINCTIONS BETWEEN HOME MAKING AND INDUSTRIAL EDUCATION.

1. Woman has always been a factor in industrial employment, as shown:
  - a. In household occupations fast becoming isolated from the home.
  - b. In nonhousehold occupations resulting from use of mechanical appliances.
2. Home continues the consumption of commodities, while production and service become isolated and organized.
  - a. Industry becomes organized and specialized, employing skilled and unskilled workers as directors and operatives.
  - b. Service becomes organized and specialized, employing professional and semiprofessional experts.
  - c. Public utilities and common commodities become organized and specialized, employing technical operatives and commercial workers.
  - d. Interdependence and interresponsibility.
3. Acknowledgment of differences fundamental to training:
  - a. Analysis of homemaking, a composite vocation.
  - b. Aim, purpose, and method of training based on preparation for diversified function of the home maker.
  - c. Analysis of industrial employment, a specialized trade or group of related occupations.
  - d. Aim, purpose, and method of training based on intensive preparation for successful entrance to employment, progression, and advancement within the chosen field.

### IV. VOCATIONAL EDUCATION FOR GIRLS AND WOMEN A TWO-FOLD PROBLEM.

1. Groups not mutually exclusive; same individual a member of both.
2. Needs to be considered:
  - a. Vocational home-making groups.
  - b. Trade and industrial groups.
3. Realignment of social attitudes toward productive work for women.

### V. WOMEN IN INDUSTRY AN INCREASINGLY IMPORTANT NATIONAL PROBLEM—ANALYSIS AND FORECAST.

1. Its scope is indicated by ages and occupations of workers.
2. Their employment is determined by youth, domestic relationship, labor market; is regulated by organization, social legislation, and standardization of conditions.

3. Their occupations are characterized by the decline of craft trades and the rise of machine industries.
4. Their presence is recognized; their continuance is dependent upon economic need, industrial expansion, labor shortage, and immigration; their place will be determined by their preparation.
5. The educational needs of girls and women arising from a changing order require an educational program providing compulsory general education, civic, and vocational education.

## PART II. WAYS AND MEANS OF ESTABLISHING AND OPERATING A PROGRAM OF VOCATIONAL EDUCATION FOR GIRLS AND WOMEN.

### I. FUNDAMENTAL PRINCIPLES OF FEDERAL AID.

1. To stimulate the undertaking of new enterprises.
2. To equalize the burden of maintenance by distribution of cost.
3. To secure uniformity, efficiency, and economy of administration.
4. To make the knowledge and experience of each available to all.
5. The Federal vocational act is an application of the foregoing principles to a national educational program.

### II. ORGANIZATION FOR ADMINISTRATION TO SECURE THE BENEFITS OF APPROPRIATIONS.

Such organization and administration involves:

1. Participation of the Federal Board for Vocational Education, representing the National Government.
2. Participation of the State board representing the State.
3. The formulation of a cooperative agreement or contract called a State plan.

### III. FUNDS AVAILABLE FOR DISTRIBUTION.

These funds are allotted:

1. To States—
  - a. For agriculture according to their rural population;
  - b. For trade, home economics, and industry according to their urban population; and
  - c. For teacher training according to their total population.
2. Within States—
  - a. According to the terms of the act—
    - (1) SEC. 11. One-third of the trade and industrial fund, if expended, must be for workers over 14 years of age who have entered employment.
    - (2) SECS. 3-11. Twenty per cent of the trade and industrial fund may be spent for home economics.
    - (3) SEC. 11. For each dollar of Federal money the State or local community, or both, shall expend an equal amount.
    - (4) SEC. 12. Not more than 60 per cent, or less than 20 per cent, shall be expended for the preparation of teachers, supervisors, or directors in any one line; agriculture, trade and industry, or home economics.
  - b. According to rulings of the board, 20 per cent of the annual appropriation for training of teachers in any one line may be used for the expense of supervision.

## IV. GENERAL PROVISIONS OF THE VOCATIONAL EDUCATION ACT.

## 1. Assume:

- a. That vocational choice has been made by student.
- b. That general education is already provided for by the State.
- c. That public schools are controlled and supervised by the State.
- d. That the local community assumes responsibility for initiating the program.

## 2. Require:

- a. That classes be under public supervision and control.
- b. That the controlling purpose is to fit for useful employment.
- c. That instruction shall be less than college grade.
- d. That 14 years to be the minimum age of entrance to day or part time classes; 16 the minimum age of entrance to evening classes.
- e. That the Federal funds be matched with State or local funds.
- f. That money be expended only for—
  - (1) Salaries of qualified teachers, and
  - (2) Maintenance of teacher-training courses.

## V. SPECIAL PROVISIONS FOR TRADE AND INDUSTRIAL EDUCATION.

## 1. Absolute standards indicated in the act:

## a. In all-day schools—

- (1) Minimum age of entrance—14 years.
- (2) One-half the time devoted to productive work.
- (3) Length of course—nine months per year (may be modified in towns under 25,000).
- (4) Hours of instruction—30 hours per week (may be modified in towns under 25,000).

## b. In part-time schools—

- (1) Minimum age of entrance—14 years.
- (2) Hours of instruction—144 per year.
- (3) Subjects to enlarge civic or vocational intelligence.

## c. In evening classes—

- (1) Minimum age—16 years.
- (2) Instruction supplemental to daily employment.

## 2. Discretionary standards indicated in the State plan:

## a. Building and equipment for day, part-time, and evening classes—

- (1) Must be adequate for instructional purposes.
- (2) Must depend upon trades taught.
- (3) Must insure instruction in variety of standard practices.
- (4) Must comply with State laws and regulations for safety and health of workers.
- (5) Must be furnished with standard supplies.

## b. Minimum for maintenance for all-day, part-time, and evening schools indicated in the State plan—

- (1) Must be adequate to fulfill aims of the school.
- (2) Must cover the cost of upkeep, replacement, and care of machinery.
- (3) Must cover the cost of selecting, buying, and accounting of supplies.
- (4) Must recognize but not depend upon the money returns received from a salable product.

## c. Character and content of course of study—

- (1) Must be determined by survey of local industries and occupational analysis.

## 2. Discretionary standards indicated in the State plan—Continued.

## c. Character and content of course of study—Continued.

- (2) Must be formulated in accordance with absolute provisions of act for each type of schools or classes—

- (a) Day trade preparatory courses—One-half the day in shop work on a productive basis, with related and nonvocational subjects to make a well-rounded course.
- (b) Part-time instruction—any subject to increase the civic and vocational intelligence—a charter for educational experiment, industrial and social improvement.
- (c) Evening trade-extension classes—any subject inherent in the trade and related to the day's employment—strictly vocational instruction for advancement of worker in chosen occupation.

## d. Methods of teaching in all-day, part-time, and evening schools or classes—

## Day schools—

- (1) Must prepare for placement in occupations at completion of course.
- (2) Must provide series of concrete experiences arranged in progressive instructional order.
- (3) Must be individual, practical, on productive basis.
- (4) Economic value of product should be comparable to product of shop or factory.

## Part-time schools—

- (1) Must aim to reach wide variety of types of individuals in groups.
- (2) Must be unconventional, vital, interesting, and admit of personal counsel.
- (3) Must develop ability for self-directed effort.

## Evening schools—

- (1) Must be supplementary to day's task.
- (2) Must yield a maximum of return in a minimum of time.

## e. Qualifications of teachers in day, part-time, and evening classes—

## (1) Day trade classes—

- (a) Shop teachers must have successful trade experience. (Federal Board shares cost with State.)
- (b) Related subjects teachers must have adequate trade contact. (Federal Board shares cost with State.)
- (c) Nonvocational teachers—approved only when minimum requirement for State licenses are observed. (Local community bears cost.)

## (2) Part-time classes—

- (a) Teachers to increase civic intelligence. Must have personal qualifications as well as meet local requirements for grade school teachers.
- (b) Teachers to increase vocational intelligence—
  - 1. Teachers of trade-finding classes must have breadth of occupational experience and personal fitness for leadership of group.
  - 2. Trade teachers—must have qualifications of shop or related subjects teachers.

2. Discretionary standards indicated in the State plan—Continued.
  - c. Qualifications of teachers in day, part time, and evening classes—Contd.
    - (3) Evening classes—
      - (a) Shop teachers—same as in all day schools—preferably engaged in commercial pursuit of trade.
      - (b) Related subjects teachers usually require more technical knowledge to handle mature groups.
  - f. Teacher training—
    - (1) Shop teachers—
      - (a) Requirements for entrance—
        1. Must have common-school education.
        2. Must have mastered trade content, acquired trade skill.
        3. Must have maturity and ability to grasp instruction.
        4. Must have general qualifications required of other teachers.
      - (b) Length of course—
        1. Variously approximated at from 144 to 288 hours.
        2. Two-hour periods twice a week.
      - (c) Content of course—
        1. Analysis of occupations.
        2. The lesson plan.
        3. The course of study.
        4. Class organization and management.
        5. Factory training.
        6. Principles of vocational education.
        7. Kinds of schools.
        8. General information.
      - (d) Certification—
        1. Attained on completion of course.
        2. Provisional certificate pending completion.
    - (2) Related subjects teachers—
      - (a) Requirements for entrance—1. Must conform to entrance requirements of delegated institution.
      - (b) Length of course—1. Four years or equivalent.
      - (c) Content of course (approximately)—
        1. 50 per cent technical and related subjects.
        2. 35 per cent academic subjects.
        3. 15 per cent professional subjects—chosen from following list:  
     Organization and administration of vocational education;  
     history of vocational schools; psychology of industrial education; methods for industrial education.
      - (d) Certification—same as required by State for regular teachers.
  - (3) General continuation teachers—
    - (a) Requirements for entrance—
      1. Successful experience as teacher.
      2. Personal aptitude and social mindedness.
    - (b) Length of course—
      1. Brief introductory course.
      2. Supplementary short courses for improvement in service.
    - (c) Content of course—
      1. Analysis of group to be reached.
      2. Aim and purpose of school.
      3. Organization and administration.
      4. Methods of instruction.
      5. Types of service possible.
      6. Programs.

## 2. Discretionary standards indicated in the State plan—Continued.

*g.* Supervision—

## (1) Responsibility should be fixed—

- (a) For educating public.
- (b) For establishing an understanding with school administrators.
- (c) For securing cooperation of employers, employees, and public schools.

## (2) Duties outlined give authority—

- (a) To determine need and program.
- (b) To outline teaching material.
- (c) To assist teachers by conferences and meetings.
- (d) To supervise and inspect and report on school applying for aid.
- (e) To prepare material for publication.

## (3) Qualifications—

- (a) Two years' collegiate training.
- (b) Two years' technical training.
- (c) Professional training and teaching experience.
- (d) Sufficient experience and contact with industrial processes to be familiar with industrial conditions affecting industrial education.

*h.* Suggested steps in the development of a program of vocational education.

- (1) Local school superintendent or delegated authority responsible for initiating a program.
- (2) Cooperation of public agencies and organizations necessary for its sanction and support.
- (3) Advisory council, composed of representatives chosen by group organizations, assists in determining policies and programs.
- (4) Industrial survey of locality permanent and continuous, indicating industrial needs and educational opportunities to meet them.
- (5) Classes recruited by aggressive publicity and personal workers.
- (6) Advisory committee chosen for each trade or occupation taught.
- (7) Teachers appointed, courses outlined, and special training planned.
- (8) Classes organized, attendance and progress recorded, certification of completion of course issued.
- (9) Reimbursement requested from State board for work done according to State plans.

## (10) Supervision a cooperative affair—

Local: To insure a program adapted to community needs.

State: To assist in execution of work in accordance with State plans and recommend to State board for approval.

Federal: To assist State in formulating plans, establishing classes, inspecting schools, and other activities necessary to promote the work in State in accordance with the Federal vocational act.

## (11) Reimbursement to State paid in quarterly installments.

## VI. TYPES OF VOCATIONAL SCHOOLS AND TRAINING AGENCIES.

## 1. The establishment of a program for vocational education in any community:

- a.* Presupposes analysis of needs of groups of wage earners.
- b.* Begins where need is imminent and public attention centered.
- c.* Commends, though can not subsidize, forms of emergency training unless in accord with terms of the act.

2. Historical development indicative of local interest and enterprise:

- a. Day classes established in industrial centers provide preemployment training for young wage earners.
- b. Evening school activities of a social and general nature obscure possibilities of relating instruction to day employment for mature workers.
- c. Part-time classes offer most flexible type of program for reaching largest group of young workers over 14 years of age.

EVENING SCHOOLS OR CLASSES.

1. Evening school classes as they have developed for working women serve four important functions:

- a. To provide social and recreational activities.
- b. To provide instruction in activities for home use.
- c. To supplement general education.
- d. To provide vocational education—
  - (1) For entrance to an occupation.
  - (2) For advancement in an occupation.
- e. Trade extension classes only (supplementary to the day employment) are subject to Federal subsidy.

2. A study of "Working girls in evening schools" reveals significant facts relative to industrial education:

- a. The patrons of evening schools are chiefly wage earners.
- b. The largest numbers are—
  - (1) American born.
  - (2) Under 21 years of age.
  - (3) Attend for the purpose of changing to a better job, "learning for home use," "obtaining a general education."
- c. Comparatively few desire "help in daily occupation."

3. Employers and employees alike must be convinced that the school can render a service by—

- a. Seeking out groups of workers with similarity of experience.
- b. Discovering their needs.
- c. Organizing classes with definite aim.
- d. Securing teachers who can give a maximum of expert instruction in a minimum of time—
  - (1) In fundamental principles of trade.
  - (2) In technique of trade.
- e. Types of groups analyzed—workers, needs, type courses—
  - (1) Custom sewing trades.
  - (2) Hotel or restaurant service.
  - (3) Other occupations—
    - (a) Metal trades.
    - (b) Woodworking trades.
    - (c) Printing trades.
    - (d) Forewomen, supervisors, and instructors in plants.

4. School authorities responsible for the development of the program must:

- a. Know educational possibilities in local industries.
- b. Find what occupations are represented in evening school enrollment.
- c. Bring workers in similar employment together to discover facts concerning their work.
- d. Study their educational deficiencies as recognized by themselves and their employers.
- e. Determine what supplementary training can be given.

4. School authorities responsible for the development of the program must—  
Continued.

*f.* Provide organization for instruction:

- (1) Define aim.
- (2) Limit registration.
- (3) Provide adequate equipment.
- (4) Secure teacher.
- (5) Enlist support of advisory committee.

#### THE ALL-DAY SCHOOL.

1. Its purpose in the program of vocational education: *a.* Preemployment training to enable girl to meet industrial conditions, possess a marketable skill, and receive higher initial wage.
2. Its place in the program of vocational education.
  - a.* An institution within the school organization affording public recognition of the educational needs of women wage earners.
  - b.* An administrative center coordinating all possible opportunities for educational service relating to employment.
  - c.* A pioneer and experimental institution determining what can be done and how to do it.
    - (1) Opening up new lines of employment.
    - (2) Cooperating with industry to secure upgrading of jobs and training to meet the upgrading.
    - (3) Analyzing tasks and setting up lines of progression.
3. Its limitations:
  - a.* Number of girls prepared for entrance to wage earning negligible in meeting demands of labor in communities in which established.
  - b.* Number of occupations taught within the school likewise limited.
  - c.* Expansion of service is dependent on the ability to establish full faith and credit with employers and with workers.
  - d.* Psychology of girl influenced by—
    - (1) Popular belief that wage earning is temporary.
    - (2) Associations in choice of school, clothes, friends, etc.
    - (3) Immediate returns rather than deferred values.
    - (4) Dread of change and shift.
4. Its organization may admit of two types:
  - a.* As a separate school—
    - (1) Coordinate in rank with secondary schools.
    - (2) With director and staff of teachers.
  - b.* As a separate department in a high school—
    - (1) With director, course of study and staff of vocational teachers.
    - (2) Teachers of related and academic subjects under direction of regular school.
  - c.* Objections raised to each—
    - (1) The organization of all-day schools—
      - (*a*) Uneconomical—duplication of administrative machinery.
      - (*b*) Undemocratic—segregation of pupils as to aim.
      - (*c*) Unnecessary—duplicates type of instruction which should be given in regular curriculum.
    - (2) The separate department—
      - (*a*) Unlikeness of aims.
      - (*b*) Shop atmosphere, methods and conditions irreconcilable with extra curriculum activities and interruptions of regular work.

4. Its organization may admit of two types—Continued.
  - c. Objections raised to each—Continued.
    - (2) The separate department—Continued.
      - (c) Difficult to organize mixed teaching force into unified body.
      - (d) Difficult to maintain public recognition of its integrity in industrial world.
      - (e) Apt to be satisfied with vocational motive, with cultural aim.
5. Its program must provide opportunities:
  - a. For preemployment training.
  - b. For conducting continuation classes for juvenile workers employed in the trades taught.
  - c. For placement of workers in progressive levels of employment alternating with instructional periods.
  - d. For short units of instruction for mature workers in latest practices of trade.
6. Fundamental characteristics of occupation for which training is offered:
  - a. Must have teachable content.
  - b. Must not be highly seasonal.
  - c. Must offer worker benefit for increase of skill or knowledge.
  - d. Must be potentially able to absorb a considerable number of workers.
7. Course of study meeting the requirements of the act must provide for:
  - a. 30 hours' instruction per week.
  - b. 9 months' session per year.
  - c. At least one-half the time spent on shopwork as a useful and productive basis.
  - d. A balance of subjects to insure a well-rounded course—
    - (1) Shop subjects: Listed alphabetically.
    - (2) Related subjects: Industrial economics.
    - (3) Academic or nonvocational subjects: Drawing, mathematics, science, English, civics, industrial history, commercial geography, physical training.
    - (4) Type schedule of subjects and hours.
    - (5) Type courses: Power machine operating, telegraphy, drafting.
8. Its benefits to the girl:
  - a. Awakening of industrial consciousness.
  - b. Realization of potentialities as producer.
  - c. Right attitude toward work and the results of labor.
9. Its present status:
  - a. Development under tremendous handicaps.
  - b. An integral part of at least 20 public-school systems.

#### PART-TIME SCHOOLS AND CLASSES.

##### *The field of part-time education.*

1. Education of young workers through part-time schools or classes a national need, shown:
  - a. By the distribution of the total school enrollment.
  - b. By out-of-school age groups of workers.
2. A social economic and educational measure:
  - a. Arising from results of present-day industrial development.
  - b. Safeguarding youth in transition from school to work or from juvenile to adult employment.

2. A social economic and educational measure—Continued.
  - c. Conserving and developing potentialities for citizen and worker at maturity.
  - d. Extending school program to include service of health, guidance, placement, follow-up, as well as instruction.
  - e. Requiring cooperation of parents, employees, employers, and all organized agencies for conserving youth.
3. The most flexible measure of the Federal act permits:
  - a. Any program of instruction "to enlarge civic or vocational intelligence of workers over 14 years of age."
  - b. Specific vocational program when over 50 per cent of work is devoted to instruction in trade, home economics, industry, commercial, or other occupational subjects.
5. Present status of part-time program in the United States:
  - a. Nineteen States have passed compulsory part-time school attendance laws adapted to the terms of their child-labor laws, compulsory school-attendance laws, and educational laws.
  - b. States are providing for selection and training of teachers for new types of service—
    - (1) Social and educational qualifications factor in choice.
    - (2) Short period of initial training develops viewpoint.
    - (3) Recurrent periods of conference and discussion required to meet problems as they arise.
    - (4) Courses, methods, and program modified by conditions at variance with regular day school.
  - c. States are assisting local communities in planning the details of organization and programs; examples of suggested type schedules of subjects and hours of instruction from—
    - (1) Michigan.
    - (2) Pennsylvania.
    - (3) New York.
    - (4) Textile industry of South.
    - (5) Boston.
    - (6) California.
  - d. Local communities responsible for ultimate adjustment and success of program.

*The girl, the job, and the part-time school.*

1. Educators recognize child's right to part-time instruction:
  - a. Girl's needs overlooked by effort to meet problems of boy.
  - b. Girl's program temporarily adjusted to a universal home-making program.
  - c. Girls as seriously handicapped as boys by lack of training for a job.
2. Girl's mental state affects her attitude toward school and work:
  - a. Influenced by fallacious belief in brief period of employment.
  - b. Influenced by friends in choice of employment, school, clothes, and the like.
  - c. Influenced by home conditions, desire to help, etc. Boy is influenced by attitudes toward school, dislike of program, preference for work.
  - d. Opportunities for vocational training must be accessible and urged.
  - e. More regular in attendance at school than boys; voluntarily out of work less.

2. Girl's mental state affects her attitude toward school and work—Continued.
  - f. Girls' need for strong personal influences, leadership, social activities, informal guidance and counsel, as well as instruction, must be met in continuation school.
3. Three groups of girls—characterized by more or less interchanging:
  - a. Girls who leave public school for short vocational course in expectation of quick placement in a job—(1) Need follow-up by organized agencies of continuation school to see that obligations are met.
  - b. Girls who remain at home to help bear family responsibilities for a shorter or longer period of time—(1) Need home economics supplemented by a knowledge of the economics of wage-earning and information concerning opportunities for employment.
  - c. Girls who go to work; Facts fundamental to analysis of problem of their needs should be obtained from school, home, and employment, including—
    - (1) Age and grade of drop-outs.
    - (2) School or department last attended.
    - (3) Reasons for withdrawal: Given by girl at school; given by parent when daughter applies for a work permit.
    - (4) Attitude toward schooling.
    - (5) Choice of work or further training.
    - (6) Physical condition.
    - (7) Home responsibilities.
    - (8) Family conditions; cause and remedies.
    - (9) Kinds of occupations at which employed: Carrying, delivery, merchandise, mechanical, clerical, domestic, miscellaneous.
    - (10) Wage: Initial, transition from school to work; at end of minority, transition from juvenile to adult employment.
    - (11) Economic status: Indicated by expenditures, cost of maintenance, saving, spending for clothes, food, recreation.
4. Information concerning employing establishments desirable for continuation-school, program of instruction, guidance, and placement:
  - a. Number of workers.
  - b. Positions in firm—duties, requirements, and wages.
  - c. Selection of workers—sources of help, method of selection, placing, releasing.
  - d. Organization for promotion and advancement.
  - e. Conditions of employment.
5. A rough survey of girls between the ages of 14 and 20 years indicates:
  - a. That of the out-of-school age group between 14 and 15, 81 per cent are employed and 19 per cent are at home.
  - b. That of the out-of-school age group between 16 and 20, 54 per cent are gainfully employed and 46 per cent are at home.
  - c. That one-third of the enrollment in public and private high schools is in practical courses.
  - d. That girls predominate in these courses to the degree to which they outnumber boys in commercial courses.

*Specialized instruction in part-time classes.*

1. Variations in part-time classes must conform to minimum standards of the act:
  - a. Must be under public supervision and control.
  - b. Must require 14 years as minimum age of entrance.

1. Variations in part-time classes, etc.—Continued.
  - c. Must offer instruction designed to increase civic or vocational intelligence.
  - d. Must provide 144 hours instruction per year.
2. Types of part-time classes indicative of possible development:
  - a. General continuation schools in textile industries; a "two-shift" plan of "paired workers" provides 5 hours in plant, 3 hours in school daily.
  - b. Trade preparatory class in general continuation schools; plant and equipment loaned for instruction; teacher and factory forewoman temporarily employed by public school.
  - c. Trade preparatory class for workers employed or under agreement for employment in plant; continuous instruction for learner until transferred to production.
  - d. Cooperative part-time classes for "in-and-out" groups; alternation of instruction with employment for at least 50 per cent of total time.
  - e. "Dull season" or "shut-down" classes for operatives; to learn new machines or processes.
  - f. Trade extension classes for supervisors; instruction relative to production factors; may be classified as evening or part-time.
  - g. Trade extension classes in chemistry and dietetics for nurses in training departments in local hospitals; may be classified as evening or part-time.

#### TRAINING IN INDUSTRIAL PLANTS.

1. Largest group of women workers in lesser skilled industries can only be benefited by an educational program which reaches them at their job:
  - a. It is acknowledged that industry, the worker, and the State would benefit from the training.
  - b. It is undetermined what part of the cost industry should bear and what service the public should render.
2. Training in plants has heretofore been largely unorganized and incidental:
  - a. Apprenticeship training is confined to selected group in few industries.
  - b. Some form of training has been necessary to replace constant loss of workers.
  - c. Experimental emergency training was inaugurated in war-essential industries to meet production demands with constantly decreasing supply of skilled labor and increasing numbers of women workers.
3. Continuance of women in these employments has resulted in:
  - a. Realignment of tasks.
  - b. Use of automatic devices.
  - c. Betterment of conditions for workers.
  - d. Introduction of women executives in employment departments.
  - e. Establishment of training departments.
4. Two types of organization of training departments:
  - a. Separate training room.
  - b. Training on production floor.
5. Functions of training department are to obtain, train, transfer, and follow-up workers:
  - a. New worker received from employment department taught.
  - b. Good worker upgraded for promotion.
  - c. Poor worker brought to standard.
  - d. Applicants tested out for jobs to discover abilities and disabilities.
  - e. New machines, tools, and methods of work tried out.

6. Factors to be considered in establishment of training department:
  - a.* Location in plant.
  - b.* Equipment.
  - c.* Teachers.
  - d.* Supply of variety of materials and processes.
  - e.* Production subordinate to instruction.
  - f.* Records showing attendance, production, and salvage.
7. Disadvantages of unorganized training:
  - a.* Loss of time.
  - b.* Spoiled material.
  - c.* Bad working habits.
  - d.* Lack of incentive.
  - e.* Discouragement and labor turnover.
  - f.* Lack of opportunity to acquaint worker with policies of plant.
8. Development of program for training operatives, forewomen, or supervisors necessitates an intimate first-hand knowledge of industry including:
  - a.* Processes.
  - b.* Working conditions.
  - c.* Methods of production.
  - d.* Steps in advancement.
  - e.* Machines and their requirements of the worker.
  - f.* Technical knowledge required to set up and run machines.
  - g.* Type of skill required.
  - h.* Kind of supplementary training which would increase the intelligence or efficiency of the worker.
9. Service may be rendered industrial plants by the organization of classes under public supervision and control in accordance with the terms of the Federal act:
  - a.* In training skilled workers for teaching in plants according to provisions for teacher-training classes.
  - b.* In holding instructional conferences for groups of forewomen as provided for in trade-extension classes.
  - c.* In training workers who are employed or under agreement for employment in accordance with the ruling for part-time classes.
  - d.* In making studies of industries necessary to keep in touch with their constantly changing problems.

## APPENDIX B.

### CLASSIFIED BIBLIOGRAPHY—WOMEN IN INDUSTRY.

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2. Specific Industry or Occupation.
3. Education and Training.
4. Economic.
5. Social.
6. Bibliographies.

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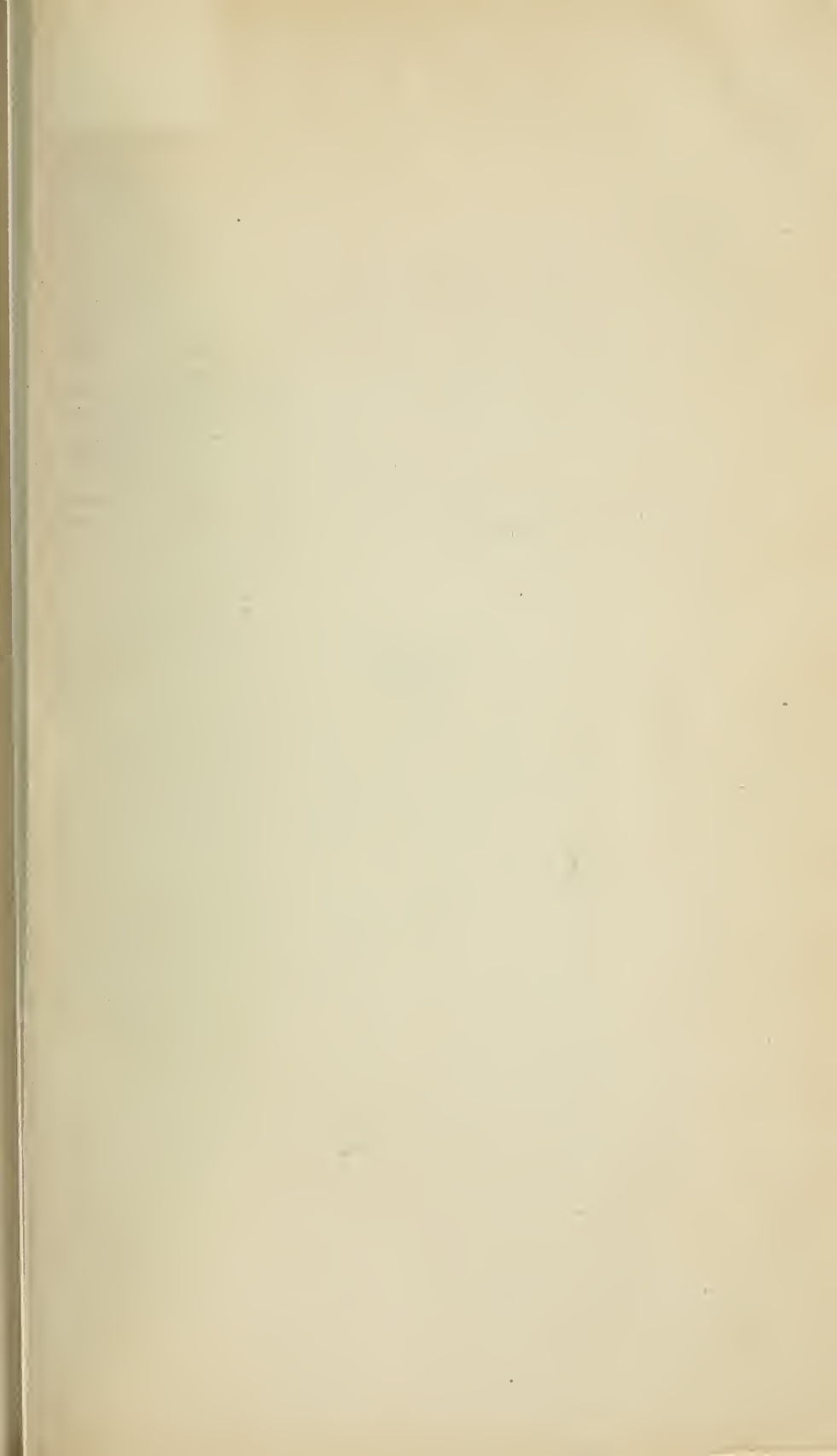
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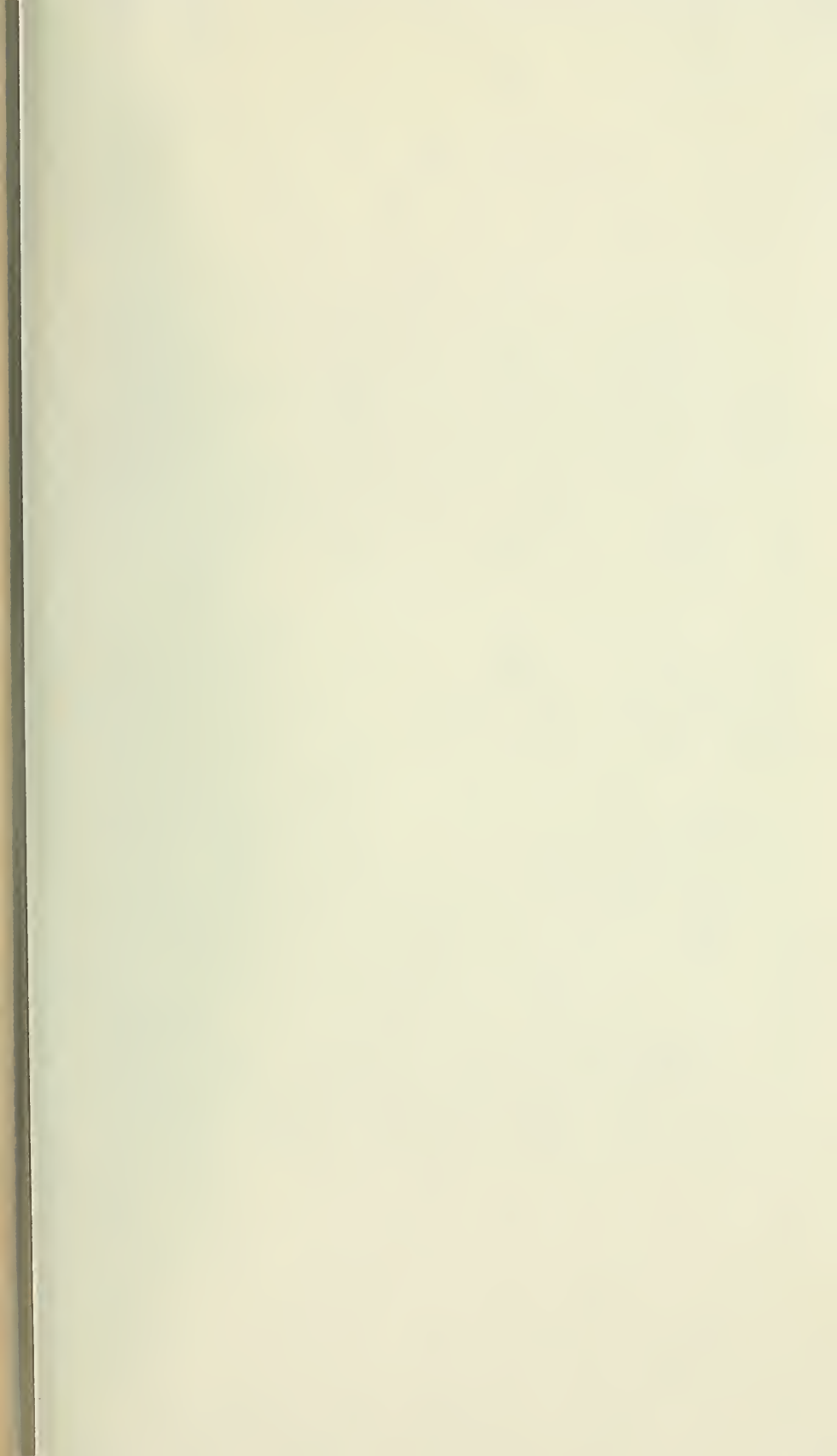
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